The OIL and GAS JOURNAL

PRODUCING REFINING MARKETING

VOL. 23. NO. 52 TULSA, OKLAHOMA, MAY 21, 1925

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Strength Characterizes Oil Markets

Highest daily average estimated production this year, week ended May 16, 2,294,271 bbls. Lowest January 3, 1,911,730 bbls.

With Light Oil Production Far Below Peak and Demand Increasing, Outlook Is Generally Favorable

By Andrew M. Rowley

Highest daily average estimated light oil production this year, week ended January 17, 1,525,220 bbls. Lowest, May 2, 1,409,898 bbls.

Continued strength characterized both the crude and refined oil markets during the past week with light oil production showing only a comparatively slight increase in comparison with the increasing demand for gasoline. Total production of crude in the United States approached nearer the peak reached during the period of overproduction in 1923 but the gain, as during previous weeks, came largely from the heavy oil district at Smackover which has very little effect upon the main crude oil price structure. Kansas and North Texas again registered the largest gains in light oil production while Oklahoma again showed a loss. For the first time since 1921, the production of Kansas went above the 100,000-bbl. daily mark.

The great demand even for Smackover heavy crude resulted in another increase in price there during the past week, the Standard of Louisiana raising the posted quotation 10 cents a barrel. There are numerous buyers for this crude, it being desirable for fuel oil, and premiums over the posted price have been the rule recently.

Production of light gravity oil in the United States is still about 100,000 barrels a day under the output of this grade of crude during January of this year. That is the answer to the continued strength of the crude oil market despite the fact the total production last week averaged 383,000 barrels a day more than it did during the low point of this year, reached also in January.

With the average consumption of gasoline per automobile in the United States larger than at any previous time and 13.6 per cent more automobiles registered during the first four months of this year than during the same period in 1924, the fact the production of crude oil especially desirable for refining purposes is still 100,000 barrels a day below what it was just four months ago emphasizes the sound basic condition of the petroleum industry at this time.

The recently discovered deep sand in the Garber Field in Oklahoma is expected to yield a large quantity of high gravity oil but the production of that field will not begin to show much effect upon the general situation until late in the summer as the wells must be drilled to a depth of more than 4,000 feet and that requires time.

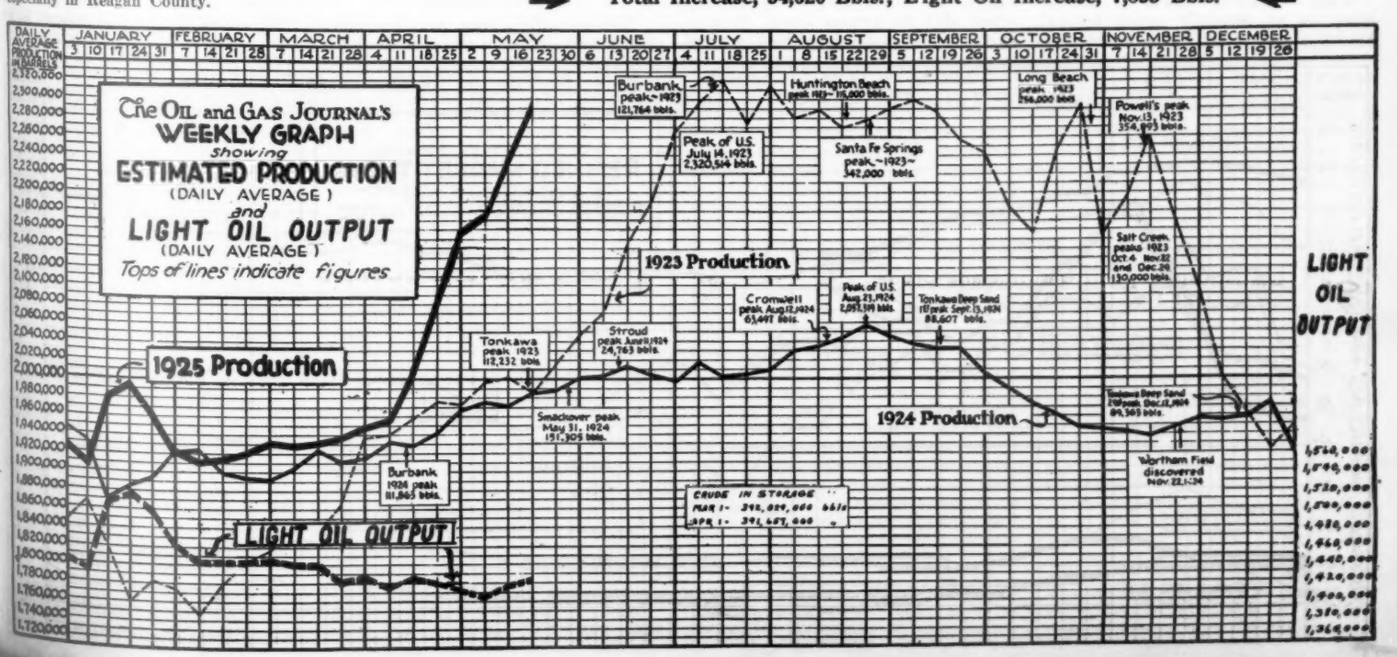
Production in Kansas is not expected to go much higher than the average for last week. The North Texas area is continuing its steady increase in output due to extensive development in many sections, especially in Reagan County.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of light and heavy gravity crude oil in the United States for the week ended May 16, and a comparison with the previous week follows:

	May 16		May 9	
Oklahoma—	**Light**	**Heavy**	**Light**	**Heavy**
Tonkawa	60,970		60,230	
Burbank	56 235		56 095	
Other Osage Fields	31,285		31,610	
Cushing and Shamrock	22,255		22,185	
Bristow and Eastern Bristow	34,945		34,865	
Cromwell	40.165		41 670	
Papoose	24,225		24,490	
Northern Miscellaneous	111,460		110,860	
Southern Fields	62,355		62,565	
Total Oklahoma	443,895		444,570	
North Louisiana	51,930		52,320	
Arkansas—				
El Dorado and Calion	9,130		9,250	
Smackover Light	29,815		30,345	
Smackover Heavy		401,427		358,785
Stephens and Nevada	3,305		3,505	
Total Arkansas	42,250	401,427	43,100	358,785
North Central Texas	173,715		166 480	
Powell	49,700		50,700	
Mexia, Currie, Richmond, etc.	27,760		27,560	
Wortham	53,500		52,600	
Kansas	100,210		95,695	
Total Mid-Continent Area	942,960	401,427	933,025	358,785
Gulf Coast		107,094		105,736
Southwest Texas		48,195		46,410
Eastern	105,725		105,250	
Rocky Mountain Area	89,870		92,445	
California—				
Santa Fe Springs	49,000		49,000	
Long Beach	114,000		114,000	
Huntington Beach	42,000		42,000	
Torrance		36,000		37,000
Dominguez	42,000		43,000	
Rosecrans	21,000		19,000	
Inglewood		15,000		11,000
Remainder of State	20,000	260,000	21,000	262,000
Total California	288,000	311,000	288,000	310,000
Total United States	1,426,555	867,716	1,418,720	820,931
Grand Total	2,294,271		2,239,651	

Total Increase, 54,620 Bbls.; Light Oil Increase, 7,835 Bbls.



Further Advances in Oklahoma Market

Gasoline Prices from One-Quarter to One-Half Cent Higher. Rapid Increase in Natural Gasolines Continue. Fuel Oil Stronger

By Neil Williams

Additional refining and marketing news will be found in section starting on page 126.

A continued steady strengthening of practically all products, featured by substantial advances in prices of natural gasolines, marked the week's developments in the Oklahoma (Group 3) refined market. This, with an unexpected boost in export schedules and general tank wagon increases in the East and South, bore out the belief of the previuos week that the soundness of the structure was on more than a temporary basis.

Despite a lack of any notable purchases this last week, a fairly steady movement of all products coupled with the fact that refiners were reported to be in a better position as regards stocks than at any time in many months past, was sufficient to prevent any sagging whatever in the market situation. On the other hand, a tendency on the part of sellers to hold off for their own prices was apparent and seemed to overcome every effort on the part of some buyers to obtain cheaper products.

Outstanding in the Oklahoma refined market situation the past week was the continued sensational climb of natural gasoline prices. A product, which less than a month ago was a drug on the market, has become so scarce that buyers now are hardly able to obtain it at any price. Although the advance in prices has been meteoric, all market observers seem to agree that natural gasolines are on a sound basis. What sellers think of the situation may be indicated in the fact that one natural gasoline maker refused an offer of 12¾ cents for 60 cars for delivery over June. The offer is considerably over the present market quotations and it is apparent that the sellers are confident of still higher spot prices.

The scarcity and strength of natural gasolines may be explained by the fact that extensive export buying the past few weeks has resulted in a rush on natural gasoline manufacturers to supply a need for something to tone up straight run and cracked products to meet exporters' specifications.

While the entire Group 3 market seems on an unusually strong footing, market observers are disagreed on what the future holds in store for prices. Conservative "dopsters," while admitting that the structure bears indications of continuing strong, can not see any material advances in prices. The observers seem to feel that the present market level will prevail for some time with no weakening of the situation.

On the other hand, there are many who freely predict that U. S. Motor (58-60, 437) gasoline has only begun its advance and that a 12-cent product will be hard to find within the near future. The latter, however, agreed with others that the present steady strengthening of the market without marked advances in prices in the long run will prove the best and most profitable situation for the refiners.

The first observers seem to have grounds for their opinion in the fact that buyers are slow to purchase at each new high price asked by refiners although the market continues strong. This situation has resolved itself into a more or less one-price market. On the other hand, the soundness of the market finally wins out and the buyers come around to each new price asked by the sellers.

Gradual Advance

Whether sellers may go any higher remains to be seen. Last week when considerable U. S. Motor gasoline was moving at 11¼ cents, a number of refiners quickly advanced their quotations to 11½ cents. Although few sales, if any, were reported at this high price, the sellers held out and Monday and Tuesday a number of deals were being made at this figure. Now with 11¼-cent gasoline being about absorbed from the market, many refiners have advanced their prices again to 11¾ cents. So far no sales have been reported. The sellers say the market will come to it. Buyers say they have gone the limit.

Although jobbers are continuing buying only as needed, sellers believe this policy has played into the hands of the refiners and resulted in better situations all the way around. They point out that the slow, steady buying has only resulted in a more firm and permanent price structure than would have been the case if large orders had come in spasmodically, and that as a result they are in good shape to go through the summer.

Of course, it is admitted that it has been only out of the culmination of a number of circumstances that the present market situation has resulted, and credit is given the extensive export demand for saving the market. If it had not been for the large export demand for gasoline, the refiners might have had large accumulations of stocks and could not have weathered the "watchful waiting" policy of the jobbers. The refiners point out that if it had not been for the export buyers, they would have had to dump large quantities of gasoline on the jobbers at low prices, the jobbers would have been able to overflow their storage at low prices and now at the beginning of the big domestic season, the refiners would have no demand for their products and would be in poor shape for the summer.

As it is, the refiners point out that the exporters have taken off the surplus stocks of gasoline, the jobbers' storage is reported to be empty and buying for the biggest domestic season in a year of increased consumption is yet to be made, and at profitable prices for the refiners.

Behind on Exports

What may be an indication of the sound condition of the refiners is re-

(Continued on Page 29.)

REFINED MARKET BAROMETER

Increases in export and tank wagon prices in the East and South put added confidence in gasoline refined markets of the United States, especially the Mid-Continent territory, the past week. The growing strength of markets in the Mid-Continent has spread to practically every portion of the country. Favorable weather in many parts of the United States, coupled with a strong export demand, has caused a further inroad on stocks of nearly all refiners. Kerosene markets were spotted during the week. Consumption of the product showed considerable increase in the East but in the Mid-Continent the product was not as strong as it has been. Export movement of kerosene increased in California but was offset somewhat by a slackening in domestic consumption. A somewhat better tone in fuel oil was reported in nearly every section of the country except California where prices were reduced 10 cents during the week. Natural gasolines are sensationally strong in all sections but on the Pacific Coast the strength has not resulted in considerably higher prices. Lubricants continued a fair movement and wax showed considerable gains especially in Pennsylvania and the Mid-Continent.

Mid-Continent—The steady strengthening trend of the last two weeks is continuing in all parts of the Mid-Continent area. Despite the lack of outstanding purchases, all products, except kerosene and distillates, are advanced in price, especially nautral gasolines. Kerosene prices are unchanged, although a greater supply is available in Oklahoma and Texas. Higher gravity gasolines, already scarce, are given new price impetus by advance in export prices. A better tone prevails for gas oil with prices advanced in Texas. Fuel oil is stronger in all sections following additional increase in Smackover heavy crude.

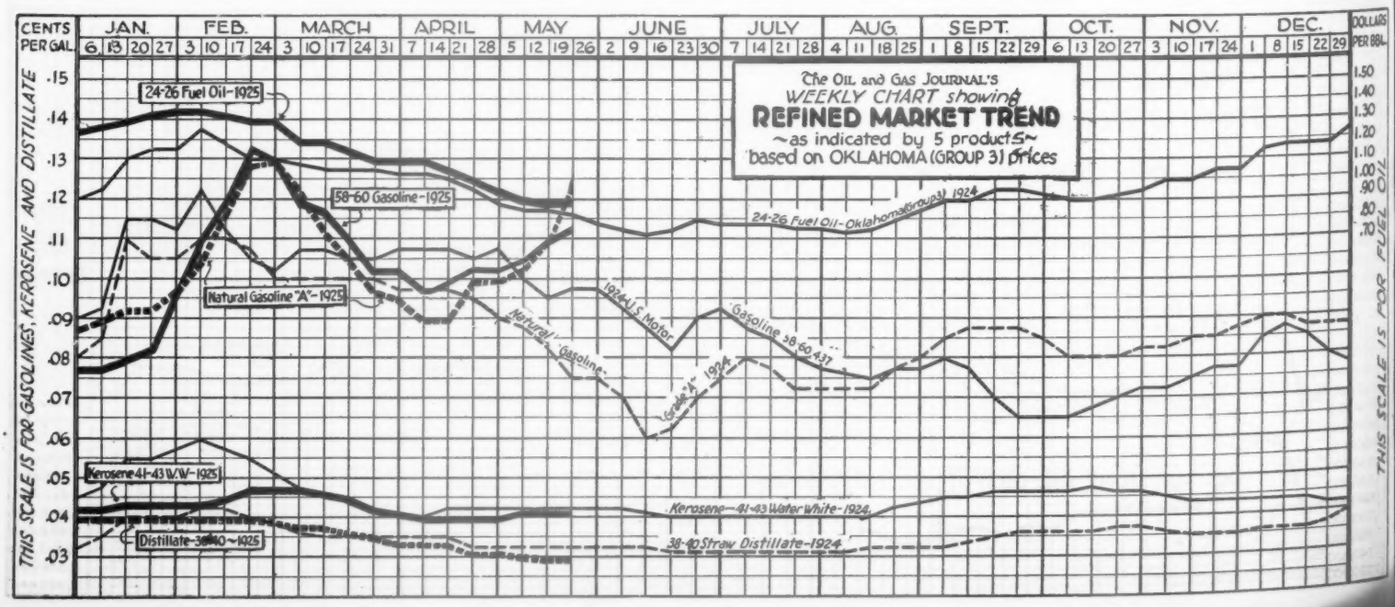
Atlantic Seaboard—Advances in tank wagon prices by the Standard of New Jersey and the Standard of New York puts new tone in refined market situation. All large companies are maneuvering to increase their gallonage. Gas and fuel oils remain firm although Mexican crudes are weak. Wax shows softening.

Gulf Coast—Stronger tone prevails in refined markets although structure is not entirely safe. Fuel oil shows further tendency to strengthen.

Pennsylvania—Improvement shown in all products. Gasoline is particularly active with prices strong. Demand for kerosene increases with prices firm. Demand for fuel oil slightly better while wax is unusually strong. Price recessions of neutrals stop. Cylinder stocks better.

California—Prices of fuel oil and Diesel oil reduced but all other refined products are strong. Export demand for kerosene good but domestic consumption falls off. Natural gasolines firm. Other products unchanged in price.

Chicago—Prices advanced on all refined products. Movement of gasoline fairly good. Improvement shown in fuel oil and gas oil. Natural gasoline prices climbing.


CENTS PER GAL.
JAN. FEB. MARCH APRIL MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.
DOLLARS PER BBL.
THIS SCALE IS FOR GASOLINES, KEROSENE AND DISTILLATE
THIS SCALE IS FOR FUEL OIL
The OIL and GAS JOURNAL'S WEEKLY CHART showing REFINED MARKET TREND ~as indicated by 5 products~ based on OKLAHOMA (GROUP 3) prices
24-26 Fuel Oil-1925
58-60 Gasoline-1925
Natural Gasoline "A"-1925
Kerosene 41-43 W.W.-1925
Distillate-38-40-1925
24-26 Fuel Oil-Oklahoma Group 3 1924
1924 U.S. Motor Gasoline 58-60 43°
Natural Gasoline
Grade "A" 1924
Kerosene-41-43 Water White-1924
38-40 Straw Distillate-1924

Auto Registration Up 13.6 Per Cent

Gasoline Consumption per Car Shows Greater Increase With Motor Buses a Most Important Factor

Registration of automobiles in the United States in the first four months of this year showed an increase of 13.6 per cent over the registration for the first four months of 1924 according to official reports made to The Oil and Gas Journal by the Secretaries of State and Motor Vehicle Registrars of the different States and the District of Columbia. The number of passenger automobiles registered from January 1 to May 1 totaled 13,301,802, while the number of motor trucks was 1,872,446, a total of 15,174,248 motor vehicles, a gain of 1,839,563 over the first three months of 1924 and within 2,557,238 of the total registration for the entire year 1924.

The effect of this increase in the number of motor vehicles in daily use in the whole country has already been shown in the greatly increased demand for gasoline. Gasoline consumption throughout the country during the first three months of this year showed an increase of 28.5 per cent over the first three months of 1924. The greater gain in consumption of gasoline is due to several causes, chiefly, better weather conditions early this year than last; a larger percentage of closed cars which permit constant use regardless of weather conditions; better roads which result in greater travel; a more universal use of automobiles; greater congestion in the larger cities which results in more consumption of gasoline; and the steadily growing use of motor buses as supplementary means of transportation in the cities and between towns.

Consumption Per Car More

The consumption of gasoline per car is much larger now than it was a year ago due to the causes mentioned above. The increasing congestion in the larger cities due to the greater number of automobiles in use is an important factor in enlarging the demand for gasoline. This is due to the fact a car consumes more gasoline when frequent stops are made, as in the case of traffic, and when constant stopping and starting has become the rule rather than the exception. Another factor in the situation is the greater percentage of automobiles with six and eight cylinders. It has only been recently that a number of manufacturers have been putting out six and eight-cylinder cars. Formerly there were only a few makes with engines of this type, most makes of cars having four-cylinder engines.

The greatly increased use of buses in cities as adjuncts to the electric street car service is one of the most important and far reaching developments to the entire situation. These buses already are consuming enormous quantities of gasoline and with their steadily growing use and increasing numbers, they will form a most important factor in the annual consumption of gasoline. Each bus uses approximately 35 gallons of gasoline a day and they are in use seven days a week. The ordinary family automobile has been credited with a consumption of about 400 gallons of gasoline a year, so it can be seen one bus will consume more gasoline than 36 family automobiles.

Buses Important Factor

All of the States have not as yet begun to segregate registration figures showing passenger automobiles, trucks and motor buses but it has been estimated conservatively there are about 100,000 motor buses in use in the United States at this time. Many cities are turning to this means of transportation in efforts to solve their traffic problems and the number of buses in use, doubtless would show a greater gain than does the total registration.

The fact that gasoline consumption showed a gain of 28.5 per cent while motor vehicle registration increased 13.6 per cent proves the consumption per car is becoming larger, also. The millions of dollars being collected annually in the form of gasoline taxes is another factor resulting in greater gasoline consumption for much of this money has been and is being expended on improving roads and good roads mean more travel. The family going out for a little ride or fresh air are not confined to the residential sections of the cities and towns now as formerly. They strike out for the country with miles and miles of paved highways luring them on to new scenes and changing landscape. The result is a much greater mileage covered and more gasoline used.

California First in Registration

New York failed to hold first place in the registration of motor vehicles for the entire United States. California led all other States in number of motor vehicles registered during the first four months of this year with a total of 1,223,478 passenger cars, trucks and buses. New York dropped to second place with a total registration of 1,137,327, while Ohio pressed closely behind with a total registration of 1,135,015. Pennsylvania was fourth and Illinois fifth. However, it will be noted California was first in registration during the first four months of 1924 and was passed later in the year by New York, which was first for the total year's registration. California gets a major part of its registration during the first four months while weather conditions in the Northern and Eastern States delay much of the registration until early summer.

Three States registered a loss in registration during the first four months of this year as compared to the first four months of 1924 according to the figures received from the State officials. The States showing losses were Indiana, Michigan and South Carolina. Other States showed much greater increases than the average for the entire country, Texas registering a gain of more than 33 per cent and Wisconsin showing an increase of 28 per cent.

Gain Larger in South

The southern States as a whole showed a greater increase in registration than did those in the North, the average gain in the South being 17.8 per cent. This is a good indication of what may be expected in the entire country during the year as a whole because a larger percentage of the year's registration is recorded in States where the weather conditions early in the year permit a resumption of motoring.

The registration of trucks showed a greater increase than did the registration of passenger cars, there being about 93 per cent of the number of trucks in use in 1924 registered during the first four months of this year, allowing the proportion of trucks for the four States which did not segregate the figures, while there were about 85 per cent of the number of passenger cars in use in 1924 registered the first four months of this year. In the accompanying table, motor buses were included with the truck registration.

Another important factor in the automobile situation is the changed policy of the manufacturers this year as compared to last. It will be remembered that during the winter of 1923-1924 manufacturers put out a large number of cars, stocking their dealers with these automobiles. This year, they went back to a former policy of making the cars as the requirements demanded and dealers at this time have lower stocks of automobiles on hand than they did last year. In other words, deliveries of automobiles last year could be made in less time than this year and this would have its effect upon registration early in the year. The registration for the first four months of 1924 showed an increase of 24.9 per cent over the registration for the same period of 1923, although the year's registration showed a gain of only 16.5 per cent. Consequently, it would be reasonable to suppose the registration for the current year would be probably greater than 13.6 per cent.

MOTOR VEHICLE REGISTRATION IN THE UNITED STATES

State—	Registration First 4 Months 1925 Pass. Cars	Trucks	Total Registration First 4 Months 1925	Total Registration First 4 Months 1924	Total Reg. 1924 Pass. Cars	Trucks
Alabama	140,722	22,574	163,296	134,867	138,574	18,688
Arizona	47,840	7,561	55,401	45,741	50,509	7,595
Arkansas	121,635	16,916	138,551	110,000	126,000	17,000
California	1,040,631	182,847	1,223,478	1,143,155	1,114,373	192,294
Colorado	189,786	15,668	205,454	157,298	196,500	16,200
Connecticut	165,498	32,209	197,707	124,152	181,115	34,090
Delaware	26,800	5,700	32,500	28,671	29,075	6,061
District of Columbia	70,416	11,684	82,100	67,557	91,905	9,916
Florida	179,011	37,445	216,456	177,417	163,036	34,191
Georgia	157,410	21,861	179,271	162,779	181,268	26,275
Idaho	50,700	4,600	55,300	55,188	61,423	7,612
Illinois	904,428	132,828	1,037,256	898,595	982,916	140,808
Indiana	375,465	58,351	433,816	476,358	566,608	83,611
Iowa	543,854	40,298	584,152	500,474	573,966	42,337
Kansas	346,929	38,095	385,024	339,479	370,951	39,940
Kentucky	185,586	20,551	206,137	174,285	208,096	23,275
Louisiana	140,000	30,000	170,000	140,000	150,900	27,100
Maine	79,419	14,455	93,874	73,995	108,602	19,364
Maryland	178,330	9,801	188,131	169,719	185,398	11,183
Massachusetts	463,961	78,736	542,697	478,439	580,489	91,826
Michigan	487,687	59,191	556,878	614,302	774,316	82,637
Minnesota	451,837	37,026	488,863	421,847	465,613	37,823
Mississippi	122,072	12,514	134,586	100,700	121,092	13,455
Missouri	*295,552		295,552	249,350	491,988	51,612
Montana	58,350	8,450	66,800	45,850	69,824	9,871
Nebraska	233,731	26,451	260,182	244,922	277,449	31,266
Nevada	13,492	2,375	15,867	14,495	18,327	.....
New Hampshire	*61,000		61,000	50,000	64,037	7,242
New Jersey	356,349	100,708	457,057	394,281	393,795	109,987
New Mexico	37,330	1,435	38,765	32,294	40,513	1,396
New York	904,311	233,016	1,137,327	971,764	1,136,526	235,973
North Carolina	*43,179		43,179	32,158	278,346	27,408
North Dakota	94,697	5,976	100,673	82,690	112,368	4,682
Ohio	994,537	140,478	1,135,015	1,050,000	1,086,000	158,000
Oklahoma	301,250	20,125	321,375	280,000	348,425	28,000
Oregon	156,225	12,419	168,644	151,757	177,558	15,057
Pennsylvania	955,914	165,675	1,121,589	984,470	1,065,303	184,895
Rhode Island	65,653	14,607	80,260	69,926	78,160	17,247
South Carolina	109,083	10,999	120,082	128,713	147,530	15,852
South Dakota	123,140	10,492	133,632	101,901	131,190	11,150
Tennessee	*170,662		170,662	153,750	182,882	20,613
Texas	728,534	67,755	796,289	597,770	764,270	67,442
Utah	59,000	8,600	67,600	56,509	69,382	9,856
Vermont	44,033	3,645	47,678	38,230	57,482	4,107
Virginia	201,901	35,405	237,306	216,228	227,525	32,652
Washington	230,652	38,969	269,621	250,506	260,919	42,186
West Virginia	137,487	18,606	156,093	140,142	168,563	22,171
Wisconsin	421,523	51,849	473,372	370,581	526,814	
Wyoming	34,200	3,500	37,700	30,400	38,831	4,808
Totals	13,301,802	1,872,446	15,174,248	13,334,685	15,636,732	2,094,754

*Not segregated. Increase 13.6 per cent.

Growth of Scottish Shale Oil Industry

Miner, Packing a Clay Pipe With Stone Shavings, Was First to Discover Extraction of Oil From Shale

By Elbert C. Isom

As one journeys west by rail from the city of Edinburgh, Scotland, through the verdant braes of the historic Lothians, one's attention is arrested by some singular looking barren hills rising in gaunt contrast to the green of the surrounding country. Oddly regular in formation and uniform in color they have, despite their gigantic proportions, the appearance of artificiality. The train guard explains that they are spent shale "bings"—more than half a century's accumulation of crushed rock dumped from the retorts of the shale-oil plants, whose characteristic though not unpleasant odor now assails the nostrils. To the layman these bare and towering piles of stone have little significance and are merely of passing interest, but to one who would read the story of petroleum, here is the opening chapter of his book.

Industry Began in 1694

The earliest reference to this unique industry that the writer has been able to discover bears the date 1694, when Eele, Hancock and Portlock made "pitch-tar and oyle out of a kind of stone from Shropshire." Oils for medicinal purposes were distilled from black shales in England as early as 1761, and in 1781 the Earl of Dundonald produced an oil by the distillation of bituminous coal. His experiments of that and subsequent dates enabled a student of his by the name of Featherstone to distill "petroleum" and ammonia from coal near Sunderland in the year 1815. It remained for a Frenchman, Laurent, to adapt Featherstone's process to the distillation of shale. This he did in 1830, his experiments covering a period of three years at the end of which time he suggested working the Autun shale near Saone-et-Loire in France. The suggestion was followed up by Selligue, who succeeded in manufacturing burning-oil, paraffin and even ammonium sulphate, and in obtaining patents covering his various processes. The shale-oil industry still exists in France, but owing to the limited deposits of workable mineral, it has never gained the importance of its Scottish competitor.

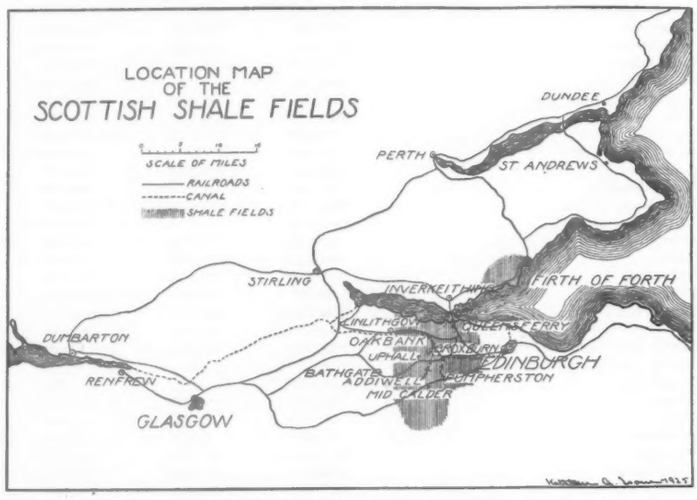
The first extraction of oil from shale in Scotland may justly be accredited to a miner by the name of Douglas, who conceived the idea of packing a clay pipe with shavings of the soft stone, sealing the bowl with moist clay and placing it in a fire. A flammable gas was driven off and burned brightly at the pipe-stem, followed by the appearance of a dark, oily fluid which he thought to be in the nature of a paraffn. This, however, Douglas lacked both the knowledge and equipment to ascertain, and being loath to disclose the experiment to others, nothing was gained at the time by his discovery.

The founder of what is known today as the Scottish shale oil industry was a Dr. James Young of Kelly, Renfrewshire. Born in Glasgow, July 13, 1811, he began his career in that city as a cabinet maker. Being much interested in the science of chemistry, Young contrived to study the subject evenings under Professor Graham of Anderson's College where in later years after having acquired a considerable fortune, he endowed a chair of chemistry. Doctor Young became Professor Graham's assistant at Anderson's and later at University College, London, which position he held until 1838. He received appointments in chemical works at Manchester and elsewhere. About 1843 he became interested in an exposed sandstone strata in a colliery at Alfredton, Derbyshire, from which a quantity of mineral oil was seeping. He leased the oil-bearing part of the colliery and was successful in producing a burning oil for lamps, a heavy lubricating oil and paraffin wax from the crude. Young was granted patents covering his refining process, upon the principles of which our modern refineries are operated.

With the exhaustion of Derbyshire oil in sight, Doctor Young set about looking elsewhere for a more permanent supply of crude. He soon discovered that the low-temperature distillation of bituminous coal yielded a high percentage of valuable petroleum, particularly the "Boghead coal" or "Torbanehill mineral" found in the neighborhood of Bathgate in the Lothians, just south of the Firth of Forth and a few miles west of the city of Edinburgh. From this material he obtained as high as 120 to 130 gallons per ton. These excellent results led to the establishment of the first Scottish oil works at Bathgate in 1851.

Turned to Oil Shale

Unfortunately the Boghead coal industry was short-lived. Within the brief span of ten years the exhaustion of the "Torbanehill mineral" and the rapidly growing demands of the market again forced Doctor Young and his associates to seek a new material from which to produce petroleum oils. The solution of this problem proved to be close at hand in what was then known as the Addiwell shales, or calciferous sandstone series. While not so rich in bitumen as the Boghead coal, the supply seemed almost unlimited and therefore the first Scottish shale-oil works were erected at Addiwell in the year 1865.



The most striking difference in the two materials was their ash content. In the Boghead coal this rarely exceeded 25 per cent, while in the oil shales more than 75 per cent was encountered. This meant that in order to secure an equal production of crude oil, nearly three times the amount of raw material would have to be retorted. The early shales yields from 35 to 40 gallons to the ton, but the present-day production is 18 to 20 gallons of oil and about 50 pounds of ammonium sulphate. At first shale was found not far below the surface, but today the material must be brought up from considerable depth, in some instances nearly 1,000 feet. Great credit is due the thrifty Scotsmen who, in spite of such conditions, have kept their shale-oil industry operating all these years in the face of vigorous competition from the vast oil fields of America, Russia and others more recently developed.

The year 1864 marked the expiration of Doctor Young's patent, taken out in 1850, covering the low temperature distillation of coal and shale. At that time there were 38 companies in existence for the purpose of producing petroleum from coal and shale. Immediately that Young's patent expired the industry commenced a rapid expansion. Between 1850 and 1895, 117 companies were organized, most of which were shot-lived due to the severe competition of imported illuminating and lubricating oil from the United States. Only 13 companies were operating in 1895, of which but 7 survived until 1921, when they were incorporated as a subsidiary of the Anglo-Persian Oil Co. under the name of Scottish Oils, Ltd.

Mining the Shale

The entire Scottish shale-oil district covers but approximately 15 square miles. It is located, as has already been mentioned, in the territory known as the Lothians, west of the city of Edinburgh and south of the Firth of Forth. A small deposit seen on the accompanying map is also found on the north side of the Firth. These are part of the calciferous sandstone series of West and Mid-Lothian and are included in the carboniferous system. The calciferous sandstone series is found in other parts of the Empire, but apparently the exact conditions necessary for the deposition of petroliferous shale existed only in the area described.

Oil shale is a finely laminated, highly bituminous mineral containing about 25 per cent organic matter. Scottish oil shale is dark brown, almost black in color, though it often occurs associated with the bluish carbonaceous shale or "blaes", which is non-productive of hydro-carbon oils. Good oil-bearing shale may be readily detected by its brown or black color, its toughness and resistance to erosion. The old Scottish field test is to pare a sample of the material in question with a pocket knife. A non-oil-bearing shale will crumble under the blade, but one sufficiently rich in organic matter to be productive of petroleum in commercial quantities will curl up in little shavings. The minute laminations may not always be apparent in a sample of raw material fresh from the mine, but they are conspicuous in the spent shale dumped from the retors.

The mining system employed is quite similar to the standard methods used extensively for coal both in this country and abroad. A shaft is sunk on an incline of about 50 degrees and laterals run therefrom at various levels as the shale occurs. At Pumpherston, one of the mines visited by the writer, shale is brought from a depth of more than 400 feet. There, the face of the formation was being worked by the "stope-and-room" method, though in other mines in the locality the practice of the "Long-wall" system was also noted. About 400 men in three shifts were employed at the Pumpherston mine, which at the time was producing 570 tons of shale per 24 hours. As the mineral is broken from the vein, it is loaded into dump cars which are drawn through the galleries by small ponies, stabled below ground. The cars are collected at the shaft where, as rapidly as possible, they are attached to a continuously moving cable transmission system, conveyed to the surface and thence to breakers located near the retorts, sometimes at a considerable distance from the shaft head.

General view of the Pumpherston works, showing spent shale "bings."

Here the shale is crushed by two-toothed rollers to pieces of not greater than four inches in diameter. It is then delivered to the retorts in cable cars similar to those in which it was brought from the mine. The raw material from more distant mines, which also supply the retorts at Pumpherston, is transported to the plant by rail in regular gondola cars similar to, though somewhat smaller than those in use in America. On arrival at the plant these cars are placed one at a time upon hydraulic lift and up-ended thus dumping their load into a breaker beneath, where it is handled in the same manner as that brought from the mines by the cable transmission system.

The shale mines are remarkably dry, doubtlessly due to the imperviousness of the material itself. What little water percolates through faults and fissures is easily taken care of by pumps. Practically the entire shaded area on the map south of the Firth is undermined by a mane of galleries at various levels. The modern laterals are laid out in rectangular sections and are worked systematically with the utmost economy. The ancient shallow works are yet to be seen, dug as they were with no regularity whatever, in quest of the richest shale, much as a mole burrows in search of food. The timbers in these old galleries are still sound and some of them are in present use for transporting men and materials below ground.

Composition of Shale

Oil bearing shale does not contain petroleum in its free state. It is composed of an intimate mixture of organic and inorganic matter which may be separated by various means, including destructive distillation. When that method is employed, the organic or carbonaceous matter termed "kerogen," also "pyrobitumen," undergoes a thermal decomposition and yields, upon condensation, a crude oil similar in many respects to that obtained from wells. The proportions of organic and inorganic matter in Scottish shale is about as follows:

Volatile matter	25%
Fixed carbon	5%
Ash	70%

The volatile matter may be further divided into:

Crude oil	12.5%
Ammonia water	6.5%
Gas and loss	6.0%

According to the above figures, the theoretical yields per ton of Scottish shale should be about 30 gallons of crude oil and 80 pounds of ammonium sulphate. As will be seen later, the actual production is approximately two-thirds that amount of oil and less than half that quantity of ammonium sulphate.

Retorting the Shale

In the distillation of shale the type of retort has always been of foremost importance and it was only after much research and experimentation, involving many heartbreaking failures, that the modern successful type was developed. The problem was to distill the oil vapors from the coal or shale at temperatures of about 900 degrees Fahrenheit and then to increase the heat to approximately 1,300 degrees Fahrenheit to drive off the ammonia. The earliest retorts were horizontal, a modification of those in use in the gas works of that period for the production of illuminating gas by distillation of coal. The gas retort, however, was operated at high temperature in order to manufacture a maximum quantity of fixed gas, while the object of the shale-oil producer was to recover his products in a liquid state. To this end somewhat lower temperatures than those used in gas retorts were employed. The resulting vapors were passed through air-cooled or water-cooled condensers from which a dark green oil and a yellowish watery liquor were secured. The oil was separated from the water and the latter, thought at first to be useless, was discarded. Later the liquor was found to contain large quantities of ammonia and that by treating it with the weak acid recovered from refining lamp-oil, ammonium sulphate could be produced in commercial quantities. Means were devised to increase the yield of this commodity and it is well that they were, for more than a few times during the vicissitudes of its existence the sale of this valuable by-product has enabled the Scottish Oils to survive.

The horizontal retorts were soon abandoned in favor of a vertical apparatus circular in cross section but of the same diameter from top to bottom. A great forward stride in design was made when a vertical retort was introduced tapering from the bottom, having the smallest section at the top. The modern retort is designed upon this basic plan, it being gradually improved from time to time as experience directed. In 1860 the introduction of superheated steam was found to increase the yields of both oil and ammonia. In 1882 a retort with the lower section of brick and the upper part of cast iron was brought out by Young and Beilby. It was fired in such a manner that the ammonia from the coal fuel was recovered along with that from the shale.

Three Modern Retorts

From the years of experiments and experience three modern retorts have emerged. These are the Pumpherston or Bryson retort, named for it's designer, James Bryson, the present general director of Scottish Oils, Ltd.; the Henderson Retort, also named for it's designer, the late Norman Henderson, an engineer who played an important part in the development of the industry and the Thompson retort, the work of A. C. Thompson, at present chief engineer of Scottish Oils, Ltd. All three are somewhat similar in construction and operation. They are tapered towards the top, have lower sections of fire brick, upper sections of cast iron and are about 60 feet in height. The Thompson retort is distinguished by its oval cross-section and the fact that it is provided with a grid-like arrangement for the continuous removal of spent shale. The Henderson retort has flat sides and rounded ends. The spent shale is removed at the bottom by slowly revolving spiked rollers. The Pumpherston, or Bryson retort shown in the sketch is the one in general use. There are 180 of these in operation at Pumpherston, 128 at Oakbank and like numbers at the other plants. Altogether about 1,500 retorts of this type are in present use in Scotland.

The Bryson Apparatus

In the Bryson apparatus the charge is kept moving continuously downwards by means of a very simple and effective device for constantly removing the spent shale. Under the bottom of the retort cylinder is a circular iron table upon which the shale column rests. A vertical shaft through the center of the table carries a steel arm so arranged that when the shaft is rotated by means of a rachet the arm sweeps the table top, thus forcing out the spent shale. The refuse material escapes over the circumference of the table and between it and the brickwork of the retort at a rate easily regulated so that it corresponds with the rate of distillation. The spent shale falls into a hopper from whence it is removed in dump cars similar to those in which it was brought from the mine, carried to the top of a "bing" often several hundred feet in height, and dumped.

The Bryson retorts are arranged in "benches" comprising 15 units of four each, or 60 retorts to a bench. The shale is fed by gravity from overhead hoppers and moves gradually downward through zones of gently rising temperature, which are so adjusted to the rate of movement as to give the maximum yield of crude oil and ammonia. The daily through-put of a Bryson retort is rated at four long tons (8,960 pounds). At Pumpherston, however, they were putting 750 tons per day through a battery of 180 retorts, an amount slightly in excess of the rated capacity.

Pumpherston Retorts.

The retorts at Pumpherston are fired with the fixed gases which they themselves produce. When the volume from that source proves insufficient the deficiency is made up by a gas producer seen in the photograph of a bench of these retorts. The fuel averages 180 to 220 b.t.u. per cubic foot. The lower, or fire brick portion of the retort, is heated to about 1,900 degrees Fahrenheit, but the temperature of the cast iron upperworks is never allowed to exceed 1,000 degrees. Superheated exhaust steam from the electro-turbine generators in the refinery power plant is introduced into the bottom of the retorts under a pressure of from three to five inches of water. Approximately 100 gallons of water converted to steam is used per 1,000 gallons of crude oil produced. While a slight steam pressure is maintained on the bottom of the retort, a vacuum of a few inches of water is applied to the vapor lines which conduct the oil and ammonia gases from the top. This aids in removing the vapors from the retort as rapidly as they are released from the shale. The distillation products together with the excess steam are conducted through large mains to batteries of atmospheric condensers seen in the photographs These are constructed of 4-inch cast iron pipe in vertical sections of about 30 feet in height. Two hundred linear feet of condenser pipe are required for each ton of shale retorted per 24 hours. The crude shale-oil and ammonia water are run through a trap in which they are separated. The incondensable gases pass into scrubber-towers where, rising through wooden checker-work baffles counter-current to the flow of a solvent, they are scrubbed first with water to remove the ammonia and then with gas-oil to recover their benzine content. One long ton of shale yields 18½ to 20 Imperial gallons of crude oil, 35 to 40 pounds of ammonium sulphate and about 10,000 cubic feet of permanent gas.

Scottish Oils, Ltd., maintains and operates 13 crude oil or retorting plants throughout the shale-oil district, the largest and most important being those in connection with the refineries at Pumpherston, Broxburn, Addiwell and Oakbank.

Making Ammonium Sulphate

As has been stated, the ammonia water separated from crude shale-oil in the atmospheric condensers was at first regarded as a waste product and a nuisance. Until 1865 it had been customary to allow this water to drain into nearby streams. Complaints from farmers who

(Continued on Page 137)

NATURAL GAS ASSOCIATION SESSION AT ATLANTIC CITY IS WELL ATTENDED

By L. M. Fanning

Atlantic City, N. J., May 19. — The opening sessions of the twentieth annual meeting of the Natural Gas Association of America being held here were well attended. The registration on Monday exceeded 400, with this number considerably increased on Tuesday when the convention formally opened. The following committees met and discussed reports to be presented at larger meetings: Technical and research committee; committees on gas measurement, gas transportation, gas utilization, and electrolysis correlating.

The annual meeting of the Natural Gas Supply Men was deferred to a later date, to be determined by the officers. The board of directors of the Natural Gas Association held its annual meeting and dinner Monday evening.

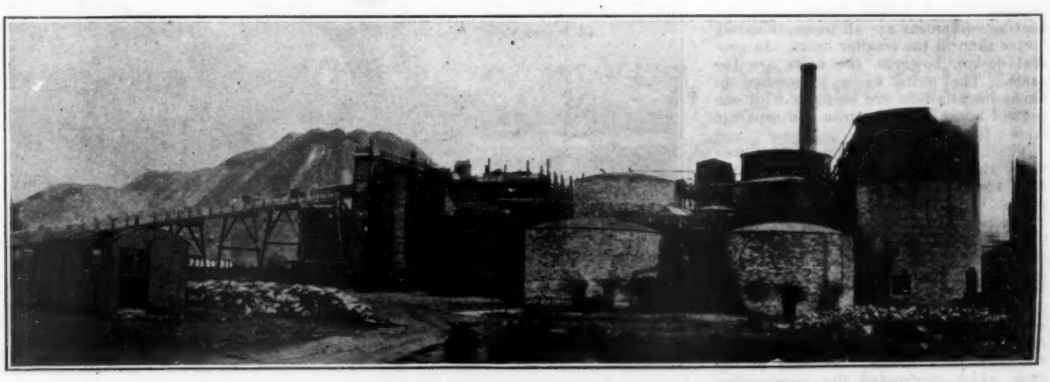
President Corrin's Address

Reviewing the work of the Natural Gas Association and its record of 20 years of achievement, President John B. Corrin, opening the convention on Tuesday morning, pointed to the natural gas industry as having played a leading role in the industrial progress of the last two decades. Many changes have occurred and outstanding among them, he said, has been the education of the consuming public, and of operators as well, in the principles of higher rates for natural gas and economical use of the fuel in an endeavor to prolong its life and usefulness, thus doing away with false notions of inexhaustible supply, low rates and waste, which formerly prevailed.

"Granted," he said, "that economy in the use of gas and true conservation are sound principles for our organization to advocate, how may we wisely steer our course toward the future which, however optimistic we may be, none dare safely predict. Is it not highly important that the education of the consuming public be continued? Publicity through the medium of newspaper and magazine articles and advertisements, through motion pictures, contented employes and other methods would appear desirable by our organization and its individual companies."

Cooperation and Publicity

One of the big problems is the conflict between the fat winter months of consumption and the lean summer months. Perhaps the key to the solution, said Mr. Corrin, is salesmanship stressing the importance of cooperation and the success of the association in bringing about harmonious relationship between public and utility. He advocated cooperation with the American Gas Association, saying a closer mutual cooperation and fraternity might well bring greater success and influence for the good of both organizations.



Crude distillate or "green oil" agitators and charging tanks. Note spent shale "bing" in the background and carloads of fresh shale ascending the incline to the top of a bench of retorts.

Install Process of Special Design

Cross Units at Plant of Atlantic Refining Company Have 2,000 Barrel Capacity. Reaction Chambers Are Made in Germany

By C. O. Willson

PHILADELPHIA, Pa., May 18.—The Atlantic Refining Co., whose Point Breeze plant on the Schuykill River here is one of the oldest refineries in the United States, is rapidly completing the construction of a modern cracking installation which in several respects has no duplicate anywhere.

The installation is that of the Gasoline Products Co., owner of the Cross process. The construction work is being done by the M. W. Kellogg Co. of New York with the assistance of the process and engineering departments of the Atlantic Refining Co.

When completed next month it will be one of the industry's most interesting installations of a process designed to obtain a maximum recovery of light end products from crude petroleum. The installation consists of six units. Each unit will have a capacity of 2,000 bbls. daily, double that of any of the numerous Cross installations at refineries located in all parts of the country.

The 12,000-bbl. capacity of the six units which includes recycling represents a distinct advance in the concentration of high capacity cracking units in a small space with absolute safety and a minimum labor cost. Decision to install the exceptionally large units is the result of several months study on the part of the licensees and licensors of the process.

Those in charge of the refinery operations at Point Breeze were desirous of an installation which would require minimum space. The company has approximately 800 acres at Point Breeze but due to the constant expansion of the plant's equipment including storage, there is no excess space available at the present time. This need of conservation in space has unquestionably been met at the Atlantic's plant as all the Cross units will be included in a rectangle 152 feet wide and 275 feet long.

Large Gasoline Output

In this space the six units are expected to produce from 4,000 to 4,200 bbls. of gasoline direct from the units. The production of 437 end point gasoline as practised at this and other Cross units will eliminate the rerunning of large quantities of pressure distillate and the treating of that portion which does not lie within the gasoline boiling points. This means that not only will the Atlantic conserve space in the operation of cracking units but will also reduce the capital expenditure due to the smaller capacity requirements of the finishing equipment.

Doubling the size of Cross units naturally necessitated some important changes in the specifications used in the standard 1,000-bbl. units. The reaction chambers, vaporizing and bubble towers and the heating equipment are all proportionately larger than in the smaller units. In general design, however, the units are the same. The units as is customary in Cross installations are in pairs with one control house for two units and separate stacks for each unit.

The accompanying picture which was taken the latter part of April shows the first reaction chamber being raised to place. One end of the chamber rests on a concrete pier shown on the right and the other on the roof of the control house at the left. The six reaction chambers constitute one of the most interesting features of the installations. The chambers which were forged from solid billet are 45 feet long by 52 inches inside diameter. The walls have a minimum thickness of 4 inches. An idea of the task which confronted the construction company in installing these chambers can be gained from the fact that each chamber weighs approximately 120,000 pounds.

Made in Germany

These chambers were made in the Krupps works at Essem, Germany. No American company, it is said, had the equipment to manufacture these mammoth chambers which in construction are similar to the Big Berthas of the German army which attracted so much attention during the World War and which were also made at the Krupp works. Although in the operation of the Cross process these chambers are subjected to a pressure of 800 pounds it is said they are capable of withstanding ten times that pressure. The same situation in regard to size and strength is apparent in other parts of the installation. The return heads are of one piece forgings and are fitted with the special Cross Compound plug which has proven successful on previous Cross units. The tubes are 3 inches inside diamter by 4 inches outside diameter and have a safety factor of 25.

The high pressnre cold oil piping is of double extra heavy pipe while the hot oil under high pressure is conducted through seamless tubing of the same specifications as the furnace tubes. All high pressure fittings and valves are of forged steel.

Fractionating Equipment

The fractionating equipment is of special design and represents the ideas of both the Atlantic, Gasoline Products and Kellogg companies. It consists of an evaporator and dephlegmator or bubble tower. The equipment operates only under the pressure generated by the friction through the apparatus.

The bubble tower, which is said to be largest ever made, has a forge welded shell making it leak proof. Among the special features of this tower, is a "reboiler" which adds sufficient heat to the bubble tower bottoms or recycle stock to boil off any gasoline that might be absorbed by this heavier stock. The efficiency of this unit is apparent from the fact that the initial boiling point of the recycle stock is from 3 to 10 degrees higher than the final end point of the gasoline.

The furnaces are of the Foster type as designed by the Power Specialty Co. This type of furnace not only gives a high fuel efficiency but also allows the required heating surface to be compresed into a small space.

The writer found that practically all of the equipment was of exceptional size. The pumps which will be used are much larger than usual. The charging stock is first picked up by a suction pump and delivered at 60 pounds to the high pressure pump which delivers at 650 pounds.

Previous issues of The Oil and Gas Journal have given descriptions of the Cross process, the latest one appearing in the February 26 issure. These articles have included flow charts and detailed descriptions of the Standard Cross unit which as previously explained does not differ materially from the Atlantic installations except for the features explained.

Process Described

Writing in "The Atlantic Seal" official publication of the Atlantic Refining Co., Dr. T. G. Delbridge, supervisor of the process division, recently gave the following brief description of the Point Breeze installation:

"The Cross Process, as it will be operated by Atlantic, involves heating gas oil to a temperature of about 890 degrees Fahrenheit, at a pressure of 650 pounds per square inch, holding the heated oil substantially in liquid form long enough for cracking to take place, releasing the pressure and allowing the hot oil to distill under careful control so that the resulting products are gas, gasoline, gas oil and fuel oil."

"The cold gas oil charged to the cracking plant is first pumped through heat exchangers where its temperatures is raised to 350 degrees Fahrenheit. Thence it passes through a fired pipe heater in which it reaches a temperature of about 890 degrees and then enters an unheated but thoroughly insulated "reaction chamber," of such size that about 20 minutes is required for oil to pass through. During this time and at the high temperature and pressure stated cracking takes place and the cracked mixture is allowed to escape from the reaction chamber through a pressure releasing and controlling valve into an evaporating tower at only slightly above atmospheric pressure. In this tower, the cracked mixture separates into a residual fuel oil, continuously drawn off the bottom, and vapors which pass into a fractionating tower of the "bubble" type. In this tower, the entire gasoline content is quantitatively separated, while a gas oil fit for recharging into the Cross unit is drawn off the base of the fractionating tower. The gasoline vapors are condensed and further refined by the usual methods."

In the past the Atlantic Refining Co. has depended entirely on the Lewis process for cracking. At the present time 72 of these stills are in operation at the company's four refineries making approximately 4,700 bbls. of motor fuel daily. This process was developed at the Atlantic's plants and bears the name of Joseph W. Lewis, for several years superintendent of the Point Breeze refinery and at present connected with the plant in an advisory capacity. The Franklin, Pa., refinery of the company also has six Cross units, each with a capacity of 1,000 bbls. The total cost of all improvements is approximately $2,500,000.

Installing mammoth reaction chamber made in Germany at the Philadelphia plant of the Atlantic Refining Co.

No Action Is Taken On Spacing of Tanks At N. F. P. A. Session

CHICAGO, May 18.—No action was taken regarding the distances between large above ground tanks for the storage of oil at the three-day meeting of the National Fire Protection Association here.

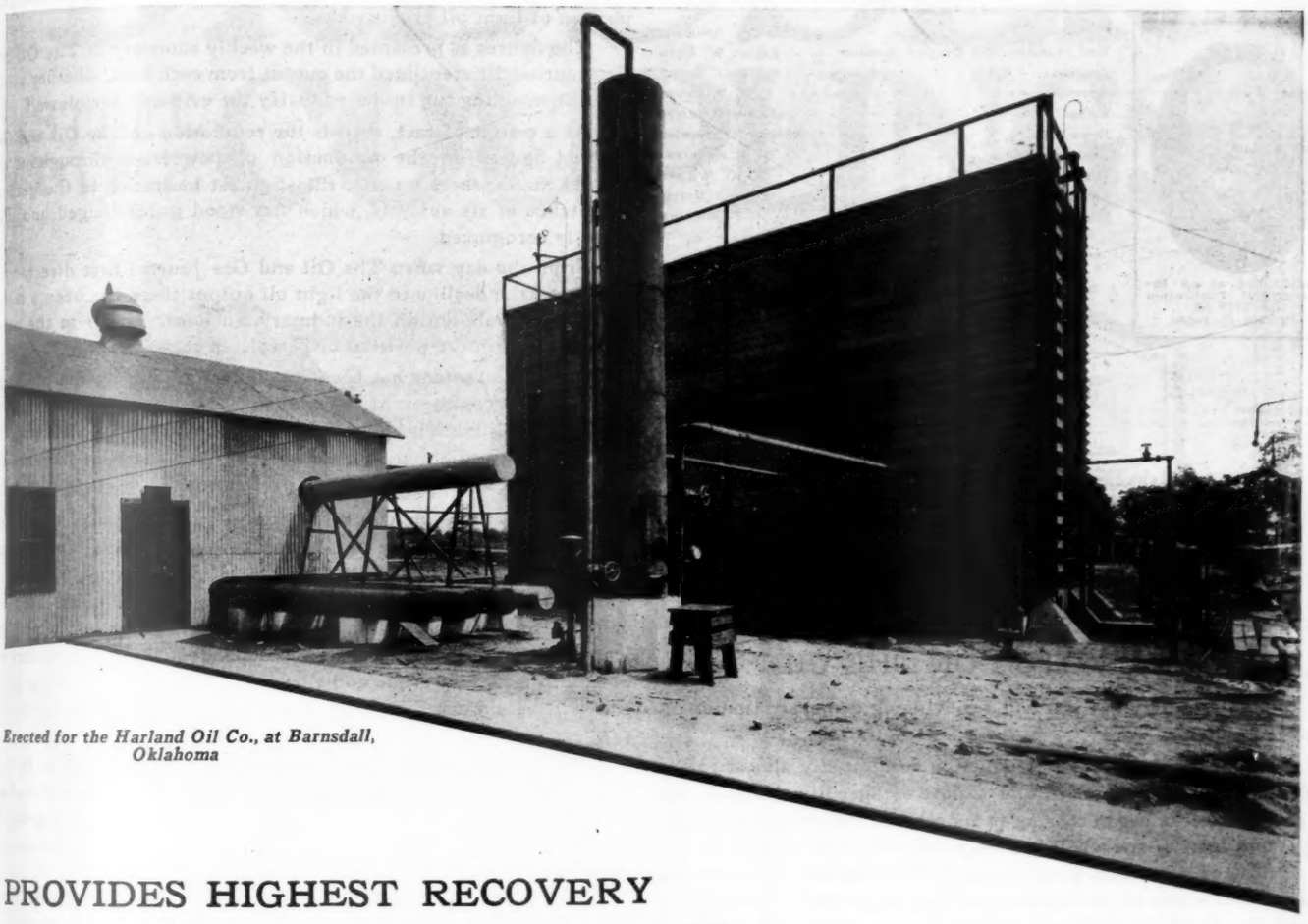
The report of the committee on Flammable Liquids was printed and parts of it read and discussed at the meeting. The matter of above-ground storage is still in the hands of a committee, however, and this means that it will not come up for final action until next year.

The report of the American Petroleum Institute Committe will be found on page 71 of this issue of The Oil and Gas Journal.

That part of the report relating to oil burning equipment where an attendant is constantly on the premises consisted of a few suggested changes from the last report. The report of suggestions relating to domestic oil burners was complete and listed many changes from previous regulations which were concurred in with the single exception of that regulation relating to above-ground storage tanks in basements. The previous report recommended the maximum size should be 60 gallons. The report suggested the quantity permitted be increased to 275 gallons but this was not approved and the final figure was the former one of 60 gallons. A new report was submitted and approved for the regulation and safe-guarding of dry cleaning establishments.

The committee on laws and ordinances made a complete report subject to final revision of a suggested ordinance regulating the use, handling, storage and sale of flammable liquids in ordinance form and intended for the use of fire commissioners and municipalities in drafting or amending fire ordinances in regard to the subject matter of the report. It embodies the latest recommendations of the reports of the committee on flammable liquids. Chapter three of this report is devoted to storage tanks—capacity, location and restrictions. The report provides that tanks containing liquids having a flash point of 150 degrees Fahrenheit and above and having a capacity of over 400,000 gallons must be at least 175 feet from adjoining property or nearest building provided than an approved type of extinguisher system is installed covering tank and the adjoining yard. Distance between above-ground tanks of 150,000 gallons or more shall be equal to the horizontal diameter of the larger of the two tanks between which the distance is measured if cylindrical and if not cylindrical in shape the distance between the two tanks must be equal to the greatest horizontal dimension of the larger of the two tanks.

NEWTON EQUIPMENT



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The OIL and GAS JOURNAL

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A NEW NOTCH ON THE GUN

The oil industry has just had a convincing demonstration of effective publicity.

When, early in the year, production rose rapidly almost to the 2,000,000 barrels a day mark and almost as speedily dropped and after a few weeks began soaring to its present sensational total, the hopes and fears of the whole industry suffered equal alternations.

Prices of petroleum products were held hesitant or weakened and the quotations of petroleum securities from which the industry draws the financial lifeblood needed for its expansion remained sluggish in the midst of an active stock market.

So long as the industry, investors and the general public kept their eyes on the daily increase in aggregate production, almost steadily shooting skyward in increases of tens of thousands of barrels a day, the producing and refining branches felt themselves menaced with another addition to the already overhanging stocks and the marketing branch hesitated to buy in the expectation of a repetition of the distress prices of the past two years.

In the great financial centers, too, investors were shy of the petroleum issues, influenced by the pessimism within the industry itself.

It is a familiar story. But this year something intervened to divert the pessimists from precipitating another panic in petroleum.

While Smackover's deep sand eruption was breaking all records and the total production for the entire country was steadily mounting The Oil and Gas Journal, analyzing the output, directed attention to the fact that while total production was growing the production of light oil had been declining steadily since the peak in January.

It was not, of course, necessary to explain to oil men that light oil as the raw material for the principal product is the price maker for the industry, but in the general concentration upon the figures for total production this very important decline in the output of light oil had been overlooked until The Oil and Gas Journal directed attention to it.

The industry was, of course, quick to see the point and it was almost as quickly seen in Wall Street and by investors generally. The leading newspapers republished The Oil and Gas Journal's figures and comment; it was carried across the country on the wires of the great news services and was featured in the headlines over the oil report in every newspaper.

"Oil Output Up, but Light Oil Declines" was the summary, with the additional explanation for the public that the gasoline supply depends not on the total production of petroleum but on the proportion of light oil produced.

The figures as presented in the weekly summary of The Oil and Gas Journal differentiated the output from each field, whether heavy or light, enabling the reader to verify the evidence for himself.

As a matter of fact, such is the reputation of The Oil and Gas Journal figures on the production of petroleum throughout the United States, there was not the slightest hesitation in the general acceptance of its analysis, which has stood unchallenged and universally recognized.

From the day when The Oil and Gas Journal first directed attention to the decline in the light oil output there has been a restoration of morale within the industry, an improvement in the price situation and in the position of petroleum securities.

No less important has been the understanding by the public as to the actual condition of the industry and the exact situation regarding gasoline. There has been a notable absence of the popular clamor for a reduction in the price of gasoline that has usually marked news of increasing crude production.

Instead of expecting a reduction in gasoline prices the public now knows that with the production of light oil declining advancing prices are inevitable.

Besides this immediate effect the demonstration has been invaluable for its general educational influence. A public which has learned that the cost of gasoline is dependent upon the production of gasoline-content crude and that oil is very far from being gasoline will be a much more reasonable public to deal with in the future.

This timely publicity has not alone educated the public in this regard but it has absolutely saved the industry millions of dollars in halting the pessimistic rush towards another season of depression and in reassuring the investing public in the stability of the oil situation.

When The Oil and Gas Journal began the movement to have the industry tell the public the story of oil to offset the attacks of politicians and demagogs and to secure the good will of those who consume the products of petroleum the suggestion was made with the firm conviction that if the story was properly told the common sense and fair play of the American people could be depended to welcome the truth and revise unjust prejudices against the industry.

The reception accorded to "The Oil Industry's Answer" by the press of the country and by the public officials to whom it was distributed abundantly confirms that faith in the American people.

The quickness with which the significance of the very important difference between total oil production and light oil production was grasped was even more striking proof of the intelligence and fairness of public opinion.

Statistics are dull and dry and meaningless to those who do not understand them. They can often convey quite the contrary from what they actually do mean, if regarded merely as sum totals.

The Oil and Gas Journal has consistently contended that the statistics of the industry should be its chart and has constantly taken pains to show the practical application of such statistics.

Of the many efforts which The Oil and Gas Journal has undertaken in behalf of the industry no service it has rendered has been as quick in securing concrete results, expressed in actual cash saving to the industry, as the broadcasting of the facts about light oil production at the moment when the flood of heavy oil from Smackover seemed likely to overwhelm the hopes of the entire industry for a prosperous year in 1925.

The upward trend of gasoline today is the practical proof.

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Smackover Deep Sand's New Record

Production Friday 366,460 Barrels. Competition for Heavy Oil Forces Price Up to 70 Cents Per Barrel

By Special Correspondent

EL DORADO, Ark., May 18.—The Standard Oil Co. of Louisiana this morning posted an advance of 10 cents per bbl. for Smackover heavy crude oil, making the new price 70 cents.

EL DORADO, Ark., May 18.—The average daily production of the Smackover Field for the week ending Saturday, May 16, was estimated as 344,627 bbls., with the high production point for the week reached in the estimate for May 15 (Friday), which was 366,460 bbls. The average number of wells producing last week was 155 and the average daily production of these wells was 2,223 bbls. per day per well.

Following is the detailed report of production for seven days:

Daily Production Record of the Smackover Deep Sand for Week Ending Saturday, May 16

	Completed Wells	Not Produc.		Daily Prod.
May 10	169	32	137	338,975
May 11	174	33	141	341,405
May 12	190	39	151	324,757
May 13	199	38	161	349,453
May 14	201	43	158	345,853
May 15	206	40	166	366,460
May 16	209	43	166	345,485
Daily Average	193	38	155	344,627

The Humble Oil & Refining Co. bought from the Moco Oil Co. (Morris Drilling Co.) the north half of the northeast of the southwest, a quarter of Section 5-16-15, for $100,000, of which $25,000 was in cash and the balance to be paid in oil.

The Deepest Gasser

The Phillips Petroleum Co.'s No. 8 Giller, NE SE SE Section 10-16-15, is good for 50,000,000 feet of gas and is spraying water at a depth of 2,665 feet, which is the top of the sand. This is the deepest showing of gas, and deeper than any showing of oil, thus far recorded in the field. That there is one and perhaps two oil sands underlying the 2,400-foot horizon where the present big production is coming from, has been the belief of operators generally for some time. Thus far none of the 2,500 or 2,600-foot gas wells have been drilled any deeper after gas was discovered, so the question of a deeper oil sand is still left for the future to determine.

Operators Hold Their Crude

The 20-cent advance in the price of Smackover heavy crude posted by the Standard Oil Co. of Louisiana on May 8 instantly stiffened the spines of Smackover producers and they are almost as hesitant about selling at 60 cents as they were at 40 previous to the advance. The Missouri Pacific Railroad Co. had a man in the field last week who succeeded in purchasing 300,000 bbls. of oil from the Natural Gas & Petroleum Co. at 70 cents per bbl. It was generally reported that the railroad company's buyer was trying to tie up 1,500,000 bbls. to be delivered over a period of time but that he could not find sellers at the price the company was willing to pay.

Smackover producers have the great advantage over operators in a new field of being firmly established in the field with properties already on a paying basis before the deep sand production came in. Because their industrial table was already set they were all realy for the feast of deep sand oil when the dish was uncovered. Instead of wildly appealing to the world to come and relieve them of a burden that threatened to engulf them, they were physically and financially able to store their immense production and to glare hard-eyed at buyers who approached them. Market cuts had no effect on them. As The Oil and Gas Journal told early in the situation, they expected the market to go to 60 cents, if not lower, but that little oil would be sold below the 60-cent market. Now that the posted price is up to 60 cents producers are asking 70 cents, and even more. The demand for the heavy oil on the part of outside buyers is remarkable. The city of El Dorado has been stormed by prospective purchasers and some good sized contracts have been made.

On the other hand the big purchasers, who stay with the operators in season and out of season, say that 60 cents a barrel is enough in the face of the supply on hand and they have thus far stood pat on that price. Of course those companies which were taking oil from leases previous to the opening of the deep sand production are doing their utmost to hold all their old connections. They are getting much of the deep sand crude at the new posted price—a great deal more than they are putting on the outside market. Heavy oil stocks in the field are increasing daily, and the work of building additional storage, most of which is earthen is going on with unabated vigor.

Above and Below Posted Price

The Lion Oil Refining Co. bought from H. L. Dale 100,000 bbls. of heavy oil with some b.s. content at 50 cents per bbl. It was stipulated in the contract that the oil was to contain less than 10 per cent of basic sediment.

The Roxana Petroleum Corp. bought 100,000 bbls. of crude from Murdock and others at 70 cents per bbl. The Phillips Petroleum Co. has bought a half interest in the lease in the southeast of the southeast quarter of Section 31-15-15, and the southwest of the northeast quarter of Section 7-16-15 from the Gladys Belle Oil Co. for $35,000. The Lion Oil Refining Co. is building a 25-car loading rack in the northwest quarter of Section 8-16-15, on the Missouri Pacific Railroad between Smackover and Norphlet.

The Roxana Petroleum Corp. is making an active canvass for Smackover heavy crude at 70 cents per barrel and the Sun Co. is also in the market for deep sand production at the same price.

Tank Ships Up River?

Reports from Baton Rouge, La., says that tentative plans are being made for the operation of tankers up the Mississippi River to a point near Greenville, Miss., to take on crude oil from the Smackover Field delivered there by pipe line which is being constructed by the Standard Oil Co. of Louisiana. The announcement followed an investigation by the company which determined that in four months out of the year the river was of sufficient depth to afford safe navigation to its tank ships. It was stated that the tankers with their crude oil cargoes could go directly from the Eastern pipe line terminus to any port in the world.

Runs and Shipments

The total quantity of oil moved out of the Smackover district in April was 4,069,887 bbls. This included light and heavy oil. The tank car shipments included 42,664 bbls. of mixed heavy and light oil; 87,206 bbls. of light oil and 2,132,130 bbls. of heavy oil which would leave 1,807,887 bbls. moved out by pipe line.

The runs from leases producing heavy oil was 4,143,583 bbls. and of light oil 915,000 bbls. or a total of runs amounting to 5,058,583 bbls.

The runs exceeded the shipments by 988,696 bbls. which went into storage.

Completions in Deep Sand

Standard Oil Co.'s No. 13 Umsted, SW SE SE Section 33-15-15, sand at 2,455-69 feet, flowing 1,000 bbls.

Crusader Oil Co.'s No. 5 Lyell, NE SE NW Section 3-16-15, sand at 2,367-78 feet, flowing 300 bbls.

Unity Petroleum Co.'s No. 10 Roper, NW NE SW Section 3-16-15, sand at 2,364-80 feet, flowing 4,500 bbls.

Woodley Petroleum Co.'s No. 5 Umsted, CNL S half, NW NW Section 2,362-74 feet, flowing 750 bbls.

Sure Oil Co.'s No. 5 Flenniken, CWL S half SE SW Section 5-16-15, sand at 2,376-84 feet, flowing 600 bbls.

Marine Oil Co.'s No. 4 Hays, CSL N half, NE NE Section 4-16-15, sand at 2,342-58 feet, flowing 4,000 bbls.

Keen & Wolfe's No. 2 Murphy, SW cor. SE SE NW Section 9-16-15, sand at 2,448-60 feet, flowing 400 bbls.

Stewart and others' No. 1 Murphy, SW SE NE SW Section 9-16-15, sand at 2,459-71 feet, 1,000 bbls.

Stewart and others' No. 2 Murphy, C NE NE SW Section 9-16-15, sand at 2,471-87 feet, flowing 1,000 bbls.

Federal Oil Co.'s No. D-7 Lawton, NE SE SW Section 10-16-15, sand at 2,432-32 feet, flowing 10,000 bbls.

Federal Oil Co.'s No. A-11 Lawton, SW NW SW Section 10-16-15, sand at 2,423-37 feet, flowing 3,500 bbls.

Ramage and others' No. C-5 Lawton, CEL SW NW Section 10-16-15, sand at 2,391-96 feet, flowing 800 bbls.

Ramage and others' No. C-6 Lawton, SW SW NW Section 10-16-15, sand at 2,391-2,405 feet, flowing 2,000 bbls.

Simms Petroleum Co.'s No. 6 Cook, NE NW NE Section 16-16-15, Section 16-16-15, sand at 2,433-41 feet, flowing salt water.

Gulf Refining Co.'s No. A-6 Goodwin, NE cor. W half, Lot 1, NW Section 2,375-87 feet.

Humble Oil & Refining Co.'s No. 8 Pate, CWL NE NW Section 10-16-15, sand at 2,378-87 feet, flowing 3,000 bbls. of fluid, 42 per cent water and sediment.

Roxana Petroleum Corp.'s No. 2 Billyew, NE SE NW Section 9-16-15, sand at 2,388-2,403 feet flowing 2,000 bbls.

Clark's No. 6 Cook, NW SE NE Section 17-16-15, sand at 2,515-19 feet, hole full of salt water.

Natural Gas & Petroleum Co.'s No. B-2 Hill, SE NE SW Section 5-16-15, sand at 2,359-76 feet, flowing 800 bbls.

McMurray's No. 1 Hill, NW SE NW SE Section 5-16-15, sand at 2,353-63 feet, flowing 800 bbls.

Riggs and others' No. 1 Wingfield, NE SE NW SE, Section 5-16-15, sand at 2,350-58 feet, flowing 450 bbls.

Phillips Petroleum Co.'s No. 5 Alphin, CSL SE SW Section 11-16-15, salt water at 2,416 feet, abandoned as a failure.

The Roxana Petroleum Corp.'s No. 4 Snyder, SE NE SW Section 34-15-15, Section 34-15-15, sand at 2,365-77 feet, flowing 2,500 bbls.

Sure Oil Co.'s No. 2 Snyder, SE cor W half, SW SW Section 34-15-15, sand at 2,343-55 feet, flowing 3,000 bbls. 57 per cent water and sediment.

Amerada Petroleum Corp.'s No. 6 Lyell, CWL NE NW Section 3-16-15, blew in at 6,000 bbls., 3½ per cent sediment.

Southern Oil Purchasing Co.'s (formerly Crusader No. 7 Graves, SE SW SW NE Section 3-16-15, sand at 2,383-91 feet, flowing 600 bbls.

Shreveport Oil Corp.'s No. B-1 Murphy, NW SE Section 9-16-15, sand at 2,460-78 feet, flowing 1,500 bbls.

Eason and others' No. 1 Palmer, NW SE SW Section 9-16-15, sand at 2,477-91 feet, flowing 800 bbls.

New Work in 15-15

So far as new work is concerned, the busiest part of the field is in Township 15-15, where the Dashko and others drilled the 20,000 bbl. well recently, resulting in an immediate rush of work on leases on all sides of the Dashko property, which is in the northwest quarter of Section 34-15-15.

The number of operations started in the past week in Township 15-15 included the following: Houston Oil Co.'s No. 3 Reynolds, CSL SW SW Section 27; Simms Oil Co.'s No. 5 Hildebrand, CSL SE Section 28; Phillips Petroleum Co.'s No. 9 Laney, SE SE Section 31; No. 10 Laney, SW SE SE Section 31; Simms Oil Co.'s No. 5 Reynolds, CSL NE NE Section 32; Standard Oil Co.'s No. 19 Unsted, SE SE Section 32; Gulf Refining Co.'s No. A-9 Umsted, NW SW SW Section 33; No. A-10 Umsted, NE SE Section 33; No. A-11 Umsted, NW SE Section 33; No. A-12 Umsted, SE NE SE Section 33; Unity Petroleum Co.'s No. 6 Berry, NE NW SW Section 33; No. 7 Berry, SE NW SW Section 33; The

(Continued on Page 138)

LA ROSA FIELD WELLS SANDING UP, LARGELY REDUCING MAY PRODUCTION

All producing wells in the closely drilled area of the La Rosa Field in Venezuela have been affected by sanding up conditions, some of them more than others, during the last few weeks, and the situation, while admittedly serious, is believed by the companies operating in the district to be temporary. Trouble with wells due to sanding up is nothing for La Rosa, but early in the month so many wells were affected simultaneously—and at the time of writing many are still affected—although some have resumed production, there seems to be little doubt that shipments out of the La Rosa Field will be considerably reduced during the month of May. Just how much production is or will be affected is difficult to say as the situation changes from day to day. A well that has sanded up may come back and with the same number and sizes of chokes produce more oil than it did before it stopped flowing.

The reduction of production in the field in no way indicates exhaustion of the productive sand. Operators in the district are well satisfied the La Rosa Field is going to produce plenty of oil and therefore the present situation is not worrying them above the points that have to do with field practices and mechancal difficulties. With the field proven and its limits yet undefined the companies and geologists familiar with the district assert the ultimate recovery of oil will be great.

Drop in Output

An indication of the effect of sanding up conditions is shown by the drop of production of the three producing companies in the field. Production of the Venezuela Gulf Oil Co., which was running around 10,000 bbls. a day, is understood to have dropped early in the month to 1,000 bbls. and at the time of writing is back to 5,000 bbls. It should be emphasized, however, that fluctuations between 5,000 and 10,000 bbls. a day for the company's five producing wells have not been unusual.

The Lago Petroleum Co.'s production, which was running at 15,000 bbls. a day and higher, dropped to around 3,000 bbls. a day, and is still reported at the latter figure at the time this is being written. The Venezuelan Oil Concessions

(Continued on Page 125)

Late News From the Fields

SMACKOVER OUTPUT OFF

EL DORADO Ark., May 19.—The production of the Smackover heavy oil from the deep sand on Monday was 338,720 bbls. from 212 wells of which 44 were dead. The prouction was 27,740 bbls. below that of Friday, May 15, which was the high record thus far.

The Sun Oil Co. bought 150,000 bbls. of heavy crude from Murdock and others at 70 cents per bbl. previous to the Monday's advance in the posted price.

PANHANDLE FIELD EXTENDED

AMARILLO, Tex., May 19.—The Amarillo Oil Co.'s wild cat test on the Warrick land, Section 16, Block Y-2, in the extreme northeast of Potter County is flowing 175 bbls. a day with a large amount of gas at a total depth of 3,500 feet. It is the most westerly oil-producing well in the Panhandle and is many miles from the oil area in Hutchinson and Carson Counties. It is on a 400,000-acre block of leases. The Amarillo Oil Co. is the operating end of the Amarillo Gas Co., owned by the Producers & Refiners Corp.

OKLAHOMA

The Gypsy Oil Co.'s No. 1 Williams, SE NW NW Section 5-10-8 was deepened to 3,467 feet and was making 25 bbls. an hour.

The Kingwood Oil Co.'s well, SW cor. NE SE Section 16-10-9 had a shell 3,240-3,247 feet, gas at 3,247-3,260 feet. The well gauged 57,000,000 feet of gas which blew the tools out of the hole.

Louis Freedman and other' deep sand well at Tonkawa SE cor. NE Section, 28-15-1w was shot Monday with 10 quarts; flowed 50 bbls. the first hour, and had a showing the next hour. It is thought that the well bridged.

KANSAS

In the Rainbow Bend Pool, the Marland Oil Co.-Waite Phillips Co.-Independent Oil & Gas Co.'s No. 2 E. Nelson SE cor. NE Section 20-33-3 topped sand 3,195 feet, had 4,000,000 feet of gas at 3,204 feet, bottom of sand 3,230 feet. It made 46 bbls. per hour for the first 14 hours.

The daily production of Rainbow Bend was 18,862 bbls. for the 24 hours ending at 7 a. m, May 18.

In the Grahams Pool, Marland Oil Co.'s No. 2 Bowers NW cor. SW SW Section 10-33-3 had sand 3,486-96 feet and swabbed 200 bbls. oil and 50 bbls. water in 18 hours.

Southwest of Rainbow, the Prairie Oil & Gas Co.'s well SE cor. NW Section 34-34-2 swabbed 48 bbls. oil and 4 bbls. water in 11 hours from sand 3,479-3,489 feet.

The Marland Oil Co.'s No. 1 SW cor. SE SE Section 21-34-2 has 2,500 feet of oil in the hole from sand 3,491-3,492 feet.

NORTH CENTRAL TEXAS

FORT WORTH, Tex., May 19.—Production in the North Texas oil areas will show another substantial gain this week, according to early estimates. The territory is producing an average daily output of 173,715 bbls. The principal gain is in Reagan County, where present daily production in 32,827 bbls., compared with last week's 29,105 bbls. Brown County also shows a gain of nearly 500 bbls., and Wilbarger County is up about 300 bbls. Archer County shows a loss of approximately 1,400 bbls.

In the north half of Young County, Whitehead and others have the promise of deep production in their test on the Belknap Coal lands near Newcastle. The well which is only 3,000 feet east of the townsite found the top of the gray lime at 3,960 feet and at two feet in the hole is standing 1,000 feet in oil.

In Montague County the Humphreys Corp.'s No. 2 Jones is a 60,000,000-foot gasser at a total depth of 816 feet. Drillers are unable to control the flow of gas according to late reports. In the same district the Texhoma Oil & Refining Co. has an 80-bbl., well in No. 4 Howard at 1,625 to 1,631 feet.

In the Wilbarger County district the Winnipeg Oil Co.'s No. 8 Bond is a 375-bbls. well uncompleted at a total depth of 2,315 feet. In the same area Mattlyee Lippard's No. 3 Waggoner is showing for a good producers at 2,096 to 2,098 feet. On a 10-hour test the well swabbed 50 bbls.

In the north half of Archer County Scott and others' No. 6 Parrish is reported swabbing at the rate of about 105 bbls., from sand at 1,581 to 1,584 feet.

The Texas Pacific Coal and Oil Co. has a fair producer in No. 6 Adams in Stephens County. It is making in an uncompleted state about 120 bbls., of oil and 4,000,000 feet of gas daily. Sand was found at 2,208 and drilled into 24 feet.

Prairie Buys Production

The Prairie Oil & Gas Co. recently bought the Mahlstedt-Mook Oil Co. properties in Archer, Brown, and Stephens Counties and the properties of the Shamrock Oil Co. and Clark, Harbin & Balbridge, most of which lie in Archer County. The net production of the leases purchased is approximately 4,000 bbls. a day.

GULF COAST

HOUSTON, Tex., May 19.—Late completions in the Gulf Coast division include H. R. Cullen's No. 6 Howe, at Pierce Junction, flowing 500 bbls. at 3,940 past. The Gulf Production Co. is startwhere production has been found in the past. The Gulf production Co. is starting an offset well on the Cain.

In the Orange Pool, the Gulf Production Co.'s No. 1-A Chesson, is pumping 30 bbls. at 4,820 feet.

In the Sour Lake Pool, the Sun Oil Co.'s No. 62 Bass & Eastham is dry at 1,225 feet and the Yount-Lee Oil Co.'s No. 1 Merchant is pumping 150 bbls. at 3,695 feet.

In the Saratoga Pool the Rio Bravo Co.'s No. 2 Fountain is bailing salt water at 2,725 feet. It is in the recent extension north of production there.

In the South Liberty Pool, the Sun Oil Co.'s No. 9 Schade is flowing 3,500 bbls. at 3,550 feet. The Humble Oil & Refining Co.'s No. 2-A Chambers was abandoned at 4,025 feet and Mills Bennett's No. 2 Rivere-Brown quit at 4,835 feet.

In the Vinton (La.) Pool the Gulf Refining Co.'s No. 35 Star came in flowing 3,500 bbls. at 3,100 feet and then increased to 5,800 bbls.

Mills Bennett's No. 1 Schultz, southwest of Brenham, Washington County, is making 20 bbls. at 278 feet. It is 1,900 feet from where dusters were drilled to a low level eight years ago and 700 feet from some shallow sand wells. The Conklin Oil Co. has two small wells there making 5 bbls. each, which were developed last February. The shallow hole on the Pomykal land will not be drilled deeper.

In Jefferson County, the Shubert Oil Co.'s No. 1, near Westberry, 13 miles north of Beaumont, is at 1,300 feet. The Port Arthur Development Co.'s No. 2, one-half mile south of the Shubert Co.'s tests, is drilling around 2,900 feet. A sand at 2,310 feet bailed salt water.

The Bristol Oil & Gas Co.'s No. 1 English in Bastrop County is drilling below 1,300 feet.

In the Rockdale-Minerva shallow sand district in Milam County, the Clear Lake Oil Co.'s No. 1 Coulter is pumping 10 bbls. at 1,125 feet. Simpson and others' No. 1 Fee is making 30 bbls. Number 2 is drilling. The Bowman Oil Co.'s No. 1 Gaithers is drilling in. It offsets the Clear Lake Oil Co.'s well. The Minerva Petroleum Co.'s No. 10 Watson is good for 30 bbls. Number 11 Watson is drilling.

In Webb County, the Calumet Oil Co. is taking a core of a sand at 1,618 feet in No. 1 Arispe, 2½ miles southeast of Bruni. Casing will be set and a test made for a gas well. The Cole Petroleum Co. and O. W. Killiam have four gas wells shut in in the Bruni section. The Cole Petroleum Co.'s No. 8 is drilling 1,600 feet east from the gassers. The Baltic Oil Co. is starting a deep test in the Pratt ranch, 10 miles southwest of Encinal. The A. D. J. Syndicate drilled two deep failures in that section of the county in 1924 and this year. The Texas Co. is starting a test on the Jennings ranch on which there are gas wells owned by the Border Gas Co., a subsidiary of The Texas Co. The Witherspoon Oil Co. is rigging for No. 1 in the Andrews Pool.

In Jim Hogg County, Henne, Winch and Fariss are coring a sand in No. 2 in the new extension, 1 mile south from the original production, at 1,960 feet and O. W. Killiam is doing the same in No. 1 in the extension. The Texo Oil Co.'s deep test is below 3,150 feet. Buchanan and the Plateau Oil Co.'s No. 4 joint in the old pool is drilling in. The Rycade-Rydal Oil Co.'s joint No. 1 Allen, near Randado, is drilling around 2,200 feet. Pippin's No. 3 is below 1,455 feet.

Sinclair Oil & Gas Co.'s No. 2 Condut, South Liberty Pool, is flowing 2,500 bbls. It is 2,000 feet south and east from the original production.

FURTHER ADVANCES IN OKLAHOMA MARKET

(Continued from Page 20)

vealed in the fact that Oklahoma refiners still lack a considerable amount of completing the first large purchase by the Carter Oil Co. (Standard of New Jersey), let alone filling all the second purchase. Whether the refiners have failed to provide all the gasoline purchased because of a shortage of the product or not can not be learned but in all probability this has something to do with the situation. However, it is reported the New Jersey company is in no particular hurry for the gasoline, it is therefore apparently satisfactory to all concerned if deliveries are delayed.

Another factor, which has considerable bearing on the present and future refined market is revealed in the weekly bulletin of the Western Refiners Association, based on the Bureau of Mines report. According to a survey mdae by the association, Mid Continent refiners on April 1 had only 37 days supply of gasoline on hand. On the same day of the previous year the same refiners had 68 days supply in storage. These figures show that Mid-Continent refiners this year are better off than they were at this time last year to the extent of 31 days supply of gasoline.

These figures reflect the situation pointed out last week in these columns showing that gasoline stocks in the Mid-Continent on April 1 were 32,966,509 gallons less than they were on the same day of the previous year. These tend to bear out the theory that one of the chief reasons refiners are behind on the Standard of New Jersey purchases is because of a shortage of gasoline to fill the orders.

Added confidence in the present market structure was given Oklahoma refiners this last week when the Standard Oil Co. of New Jersey, the Standard Oil Co. of New York and the Standard Oil Co. of Louisiana advanced their respective tank wagon prices a cent a gallon. The advance in tank wagon prices followed a period of apparent unsettled tank wagon situation when local reductions were being made quite freely.

The advance of the Standard of New Jersey of a half cent in all its export prices also was received with pleasure by Oklahoma refiners. The export advance was reflected immediately with further strengthening of 60-62 and 64-66 markets and price advances. While no large purchases of these gasolines were reported this week, market observers agree that this has not been because of a falling off in demand but only because the gasoline could not be obtained. All large exporters still are reported as being on the alert for every chance to obtain the product, not only in Texas but also from Oklahoma refiners.

Gasoline and Naphtha

The strengthening of the market is reflected by price advances in all grades of gasoline. Price increases are particularly marked in the higher gravities. The 64-66, gasoline Tuesday could not be bought under 14 cents if it could be found, and one refiner who had some was reported demanding 15 cents. The 60-62 gasoline shows an advance of a half cent. The market Tuesday was 12¾ to 13 cents. While 58-60, 437 (U. S. Motor) gasoline Tuesday was 11½ to 11¾ cents, a few cars of the 11¼-cent gasoline could be obtained. Refiners who advanced quotations to 11¾ cents are doing little business at this figure. The bulk of the 56-58, 450 gasoline is moving at 11 to 11¼ but one sale of 45 cars was made at 11⅜ cents. Naphtha advanced a quarter cent to 10¾ to 11 cents.

Kerosene and Distillates

Although kerosene became more plentiful this last week, buyers still are unable to obtain any under 4⅛ cents, the 41-42 water white quality. The 42-44 water white can be obtained at 4⅜ to 4½ cents. Kerosene was the only product which showed any weakening during the week. While distillates are unchanged in prices at 3 to 3⅛ cents, a little interest is centered on them as a result of early negotiations being made for fall delivery. One refiner reported that buyers are negotiating with him for a total of 20,000,0000 gallons.

Natural Gasoline and Blends

Natural gasoline continue to make the most sensational advances in price, making a jump of nearly 2 cents a gallon during the week. Although very little could be obtained. Tuesday all grades were quoted at 12¾-13 cents. Blends also have advanced in sympathy with naturals. They also are scarce but the bulk was moving Tuesday at 11¼ to 11¾ cents with perhaps a few sales below or above.

Fuel Oil and Gas Oil

Little movement was noted in fuel oils during the week but a further strengthening is in evidence, especially following the 10 cents advance in Smackover heavy crude Monday by the Standard of Louisiana. Tuesday no fuel oil could be obtained under 90 cents from Oklahoma while on 24-26 many sellers were demanding 85 cents. All 28-30 fuel under $1 seems to have disappeared. Although only a little of this grade is made, a sale or two has been made at $1.05.

The purchase last week by the Pure Oil Co., of 400 cars of gas oil at 3 cents from the American Refining Co., at Wichita Falls, Tex., helped to strengthen the Group 3 gas oil market. Cheap gas oil is disappearing and the product is becoming firm. Some gas oil still can be obtained at 2⅞ cents in the group but some was bought at 3 cents.

The Pure Oil Co,'s purchase has been followed by the Atlantic Refining Co., which in the last few days has purchased a reported 5,000,000 gallons of gas oil from Oklahoma and Texas. These purchases have been the chief factors in strengthening the gas oil market and are expected to result in substantial advances in prices.

Lubricants and Wax

The sale of a large quantity of wax by the Mid Continent Petroleum Corporation, at 5¼ cents a pound this last week seemed to put additional strength to this product. The wax business has been picking up despite its off season being at hand. Several concerns have been forced to make additional concessions in cylinder stocks. At the same time other concerns report a very satisfactory movement. Neutral did not change during the week.

GEOLOGISTS TO MEET IN DALLAS

At a meeting of the executive committee of the American Association of Petroleum Geologists, held in Tulsa Tuesday, it was decided to hold the 1926 annual convention in Dallas, Tex.

North-Central Texas Field

By George R. Kelley

Big increase in production. Good wells in North Young County. Opening of new wildcat territory in both Wilbarger and Archer Counties. Reagan County reports three completions aggregating 9,560 bbls. Big Lake's No. 23, 3,795 bbls.; Texon's No. 6 and No. 8 make 3,030 and 2,735 bbls. respectively.

FORT WORTH, Tex., May 18.—A big increase in average daily production, the completion of a large number of good wells in north Young County and the opening up of new wildcat territory in both Wilbarger and Archer Counties were the features of oil field development in North Central Texas this week. Vieing in importance was the record of Reagan County, which accounted for three new wells with an aggregate flush production of 9,560 bbls.

Total average daily production this week is 170,355 bbls., compared with an average last week of 157,802 bbls. This gives the week a gain of 12,553 bbls. Most of the important producing areas showed substantial gains, Burkburnett, Archer County, Stephens County, Ranger, Young County and Reagan County. Burkburnett made a gain of 910 bbls., Archer gained 3,683 bbls., Stephens County is up 567 bbls., Ranger, 413 bbls., Young County, 486 bbls., and Reagan County shows an increase of 6,310 bbls.

Completions during the week totaled 87, slightly less than the average for the past few weeks. Archer, Young and Wichita Counties led in number of completions with 23, 18 and 13 respectively. Archer had 14 producers and 9 dry holes, with new production amounting to 925 bbls.; Young had 12 producers and 6 dry holes, with 1,410 bbls. new production, and Wichita County had 9 producers and 4 failures with new production totaling 541 bbls.

Reagan County Leads

Reagan County led all districts in amount of new production, totaling 9,560 bbls., from three new wells. The three new producers are Big Lake Oil Co.'s No. 23 University, making 3,795 bbls.; Texon Oil & Land Co.'s No. 6 Group 1, and same company's No. 8 Group 1, making 3,030 bbls. and 2,735 bbls., respectively.

Among the districts that afford only moderately sized wells, Young County was the banner district. It had 12 new producers with an aggregate new production amounting to 1,410 bbls. Among the new completions were four by The Texas Co. on the Gambrell lease northwest of Olney. Number 15 Gambrell is making 215 bbls.; No. 22, 100 bbls.; No. 19, 230 bbls., and No. 25, 130 bbls. All are producing from the 1,200-foot sand.

The Simms Oil Company also has two good completions in Young County. Number 5-B Carpenter is making 300 bbls., from sand at 1,036 feet and No. 6-B Carpenter, 190 bbls., from a total depth of 1,031 feet.

New production from the entire district amounted to 13,679 bbls., from 51 producing wells, making an average per new well of about 268 bbls.

Another Wilbarger County well which hit the pay sand during the week but not yet completed gives promise of opening up another new producing area. The new well is Eslick and others' No. 1 Waggoner, about 4 miles south of production in the South Vernon Pool and nearly 2 miles northwest of the old Sigler well. The location is in Section 52 Block 2, H. & T. C. railroad survey. Top of the sand was found at 2,092 feet and the hole was drilled to a total depth of 2,096 feet, giving just four feet of pay sand. Latest reports are it is shut down with 1,000 feet of oil. Running the swab twice produced about 50 bbls., of oil.

In the spring of 1920 when the Sigler well was brought in several wells were drilled in the territory north and northwest of the Sigler well, none proving productive. The Sigler well started a boom which lasted for a few weeks but which subsided quickly when probably a dozen dry holes were drilled around the discovery.

New Producing Area

A new producing area also seems to be opening up in north Archer County on the Luke F. Wilson ranch. Burns and Maxson in No. 1 Wilson, Lot 1, Block 75, have what appears to be about a 100-bbl. well. Sand was encountered at 1,481 feet and was drilled into only three feet. The new well is about 4 miles north of the town of Archer City. The nearest production is two small producers of Barkley and others on the Wilson ranch, 2 miles to the northwest and the production on the Parrish lands, 4 miles north. The new well is practically surrounded by dry holes.

In northern Brown County there are two new producing wells which are not yet complete. McMurray and others' No. 5 Newton, is one of the best wells ever drilled in that territory, making 435 bbls., from sand topped at 1,272 feet and drilled into a total of 20 feet. Gillman and others' No. 2 Teston, which is estimated good for 20 bbls. in sand at 1,245 to 1,258 feet.

Northern Young County also reports three fairly good producers not yet completions. Anderson and others' No. 1 Dunagan is making 85 bbls. of oil and 60 bbls. of water, two feet in sand that was topped at 1,020 feet. Norton and others' No. 7 Hamilton, is estimated 90 bbls., from sand found at 1,212 feet and drilled into seven feet, while Lesh and others, No. 8 Kemp is estimated at 75 bbls., seven feet in pay sand encountered at 1,080 feet.

Muse and others have the promise of an unusually nice producer in No. 2 Lowe in south Archer County. The well hit the pay at 1,250 feet and at a total depth of 1,253 feet is making 200 bbls. Gwynn and others' No. 4-A Rogers, also in south Archer County is making 40 bbls. from sand at 1,271 to 1,278 feet. Mooers and Others' No. 2 Rogers, is a very recent new producer. Pay sand in this well was found at 1,272 feet and at 5 feet in the well made 85 bbls. on a 21-hour test.

PRODUCTION REPORT

For the Week Ending May 14, 1925

Burkburnett	
Guf Production Co.	647
Humble Oil & Refining Co.	395
Magnolia Petroleum Co.	2,860
Panhandle Refining Co.	2,860
Prairie Oil & Gas Co.	10
Sinclair Oil Co.	55
Sun Oil Co.	155
The Texas Co.	520
Texhoma Oil & Refining Co.	460
Miscellaneous	9,130
Total	14,547
Electra	
Empire Oil & Gas Co.	1,105
Gulf Production Co.	920
Humble Oil & Refining Co.	100
Magnolia Petroleum Co.	3,855
Panhandle Refining Co.	70
The Texas Co.	3,565
Texhoma Oil & Refining Co.	1,900
Miscellaneous	5,495
Total	17,010
Iowa Park	
Gulf Production Co.	35
Humble Oil & Refining Co.	10
Magnolia Petroleum Co.	590
Panhandle Refining Co.	45
The Texas Co.	565
Texhoma Oil & Refining Co.	50
Miscellaneous	3,180
Total	4,475
Archer County	
Empire Oil & Gas Co.	550
Gulf Production Co.	3,106
Humble Oil & Refining Co.	725
Magnolia Petroleum Co.	1,095
Panhandle Refining Co.	265
Prairie Oil & Gas Co.	1,280
Sun Oil Co.	145
The Texas Co.	3,610
Texhoma Oil & Refining Co.	2,405
Miscellaneous	27,742
Total	40,923
Petrolia	
Gulf Production Co.	130
The Texas Co.	60
Miscellaneous	255
Total	445
Stephens County	
Empire Oil & Gas Co.	80
Gulf Production Co.	1,390
Humble Oil & Refining Co.	822
Magnolia Petroleum Co.	600
Mid-Kansas Oil & Gas Co.	725
Prairie Oil & Gas Co.	725
Sinclair Oil Co.	105
Sun Oil Co.	245
The Texas Co.	1,570
T. P. Coal & Oil Co.	1,085
Miscellaneous	9,662
Total	17,919
Ranger	
Gulf Production Co.	330
Humble Oil & Refining Co.	50
Magnolia Petroleum Co.	645
Mid-Kansas Oil & Gas	245
Panhandle Refining Co.	285
Prairie Oil & Gas Co.	645
Sinclair Oil & Gas Co.	385
The Texas Co.	203
T. P. Coal & Oil Co.	950
Miscellaneous	3,315
Total	7,053
Moran	
Empire Gas & Fuel Co.	35
Prairie Oil & Gas Co.	20
The Texas Co.	100
Texhoma Oil & Refining Co.	115
Miscellaneous	2,985
Total	3,255
Young County	
Gulf Production Co.	395
Humble Oil & Refining Co.	765
Mid-Kansas Oil & Gas Co.	25
Panhandle Refining Co.	455
Prairie Oil & Gas Co.	15
Sinclair Oil & Gas Co.	430
The Texas Co.	2,765
Texhoma Oil & Refining Co.	410
Miscellaneous	6,866
Total	12,126
Eastland-Comanche	
Empire Gas & Fuel Co.	15
Humble Oil & Refining Co.	195
Magnolia Petroleum Co.	1,085
Mid-Kansas Oil & Gas Co.	250
Prairie Oil & Gas Co.	125
Sinclair Oil & Gas Co.	30
The Texas Co.	155
T. P. Coal & Oil Co.	120
Miscellaneous	1,910
Total	3,885
Miscellaneous Pools	
Wilbarger County	7,573
Montague County	120
Jack County	25
Palo Pinto County	605
Brown County	1,735
Coleman	75
Callahan County	4,084
Mitchell County	1,780
Reagan County	29,105
Scurry County	55
Carson County	2,830
Hutchinson County	560
Wheeler County	45
Gray County	55
Potter	70
Total	48,717
Total this week	170,355
Total last week	157,802
Gain	12,553

Completions—Wichita County

Brashear and others' No. 1 Fossetr, dry at 1,920 feet; Allen Oil Co.'s No. 49 Allen, drilled deeper, making 35 bbls. at 1,843 feet; Empire Gas & Fuel Co.'s No. 10 Pierce, 45 bbls. at 1,560 feet; Great Plains Production Co.'s No. 3 Cunningham, 6 bbls. at 308 feet; Joe Howell and others' No. 1 B. Burnett, dry at 1,655 feet; Kruger and others' No. 13 Allen & Kemp, dry at 1,842 feet; Maer and others' No. 1 Waggoner, (Section 1), 2 bbls. oil and 50 bbls. water at 1,706 feet; Magnolia Petroleum Co.'s No. 67 Hawaker, 5 bbls. oil and 3 bbls. water at 1,595 feet; O'Donohoe and others' No. 1 Allen & Kemp, 265 bbls. at 1,420 feet; Ryan Petroleum's No. 1 Henson, 6 bbls. oil and 10 bbls. water at 1,347 feet; The Texas Co.'s No. 14 Maer, 42 bbls. at 1,768 feet; Underwood and others' No. 1 Pace, 112 bbls. oil and 19 bbls. water at 1,786 feet; Gulf Production Co.'s No. 62 Miller, dry at 2,026 feet.

Wilbarger County

Atlantic Producing Co.'s No. 3 Zieperle, 50 bbls. at 1,328 feet; Humble Oil & Refining Co.'s No. 13 Castlebury, 5 bbls. at 1,307 feet; No. 17 Castlebury, 127 bbls. at 1,308 feet; McCamey and others' No. 7 Stephens, 70 bbls. at 2,127 feet.

Archer County

Arco Oil Co.'s No. 1 Stehlik, dry at 1,858 feet; Camp Oil & Gas Co.'s No. 4-C Wilson, 20 bbls. at 1,607 feet; Empire Gas & Fuel Co.'s No. 3-A Wilson, 15 bbls. at 1,624 feet; Franklin and others' No. 8 B. Parrish, 73 bbls. at 1,589 feet; Lacason and others' No. 4 Wilson, 30 bbls. at 1,589 feet; Payne and others' No. 1 Parrish Bros., dry at 1,654 feet; Phillips Petroleum Co.'s No. 61 White, 25 bbls. at 1,607 feet; No. 62 White, 145 bbls. at 1,614 feet; No. 63 White, dry at 1,414 feet; Riner and others' No. 18-B Wilson, 110 bbls. at 1,617 feet; Staley and others' No. 11-C Wilson, 55 bbls. at 1,611 feet; Texhoma Oil & Refining Co.'s No. 1 Morrison, dry at 1,825 feet; British American Oil Co.'s No. 8 Rogers, dry at 1,284 feet; Jack Clark's No. 2 Cowan, making 120 bbls. at 1,022 feet; Gwynn and others' No. 4 Scruggs, 21 bbls. at 1,314 feet; Jeffers and others' No. 3 Andrews, dry at 1,122 feet; Maryland Oil Co.'s No. 2 Ward, dry at 1,257 feet; Mitcham and others' No. 1 Wilson, dry at 1,610 feet; Muse and others' No. 1 Lowe, 162 bbls. at 1,262 feet; Prairie Oil & Gas Co.'s No. 16-B Richardson, 98 bbls. at 1,282 feet; No. 18-B Richardson, 25 bbls. at 1,278 feet; Richardson and others' No. 2 Ward, dry at 1,200 feet; Wolf and others' No. 1 Teague, dry at 1,335 feet.

Young County

Burns and others' No. 1 Wilborn, dry at 1,380 feet; Humble Oil & Refining Co.'s No. 4 Campbell, dry at 1,084 feet; No. 12 Schlegel, 125 bbls. at 1,192 feet; Mahtstedt Mook Oil Co.'s No. 1-A Logan, dry at 1,401 feet; Murchison and others' No. 14 Schlegel, 58 bbls. at 1,208 feet; No. 15 Schlegel, dry at 1,207 feet; Multiple Oil Co.'s No. 6 Hamilton, 10 bbls. at 1,205 feet; Panhandle Refining Co.'s No. 5 Gambrell, 55 bbls. at 1,215 feet; No. 6 Gambrell, 37 bbls. at 1,214 feet; No. 1 Van Hamert, dry at 1,545 feet; Simms Oil Co.'s No. 5-B Carpenter, 300 bbls. at 1,036 feet; No. 6-B Carpenter, 190 bbls. at 1,031 feet; The Texas Co.'s No. 15 Gambrell, 215 bbls. at 1,229 feet; No. 22 Gambrell, 100 bbls. at 1,212 feet; No. 19 Gambrell, 230 bbls. at 1,235 feet; No. 25 Gambrell, 130 bbls. at 1,214 feet; Texhoma Oil & Refining Co.'s No. 9, Gambrell, 60 bbls. at 1,229 feet; Wolf and others' No. 1 Haygood, dry at 901 feet.

Stephens County

Cox and others' No. 1 Cunningham, 335 bbls. at 3,199 feet; Gholson and others' No. 1 Young, dry at 2,287 feet; Magnolia Petroleum Co.'s No. 4 Jones, 8 bbls. oil and 2,000,000 feet of gas at 3,272 feet; Simms Oil Co.'s No. 6-A Jackson, 20 bbls. at 3,065 feet; Strawn Petroleum's No. 22 Stuart, 65 bbls. at 1,783 feet.

Eastland County

Magnolia Petroleum Co.'s No. 6 Harris, dry at 1,822 feet; Donley Drilling Co.'s No. 1 Stubblefield, 3,000,000 feet of gas at 3,340 feet.

Reagan County

Big Lake Oil Co.'s No. 23 University, 3,795 bbls. at 2,945 feet; Hoffman and others' No. 1 University, dry at 3,200 feet; McCamey and others' No. 1 University, dry at 3,105 feet; Texon Oil & Land Co.'s No. 6 Group 1, University, 3,030 bbls. at 2,952 feet; No. 8 Group 1, University, 2,735 bbls. at 2,950 feet.

Brown County

Gillman and others' No. 9 Newton, dry at 1,297 feet; Prairie Oil & Gas Co.'s No.

Now Drilling at 6800′

OUT IN the Rocky Mountain Country, almost in the shadow of Long's Peak which towers over fourteen thousand feet above sea level, is the A. A. Rollestone Drilling Well, Johnson Farm No. 1, Boulder County, Colorado.

This well was drilled to a depth of 6,250 feet in 120 days, actual running time. Jones & Laughlin Woodlawn Special Lapweld Casing was used from the grass roots down to 4,300 feet, including 20" 90-lb., 15½" 70-lb., 12½" 50-lb., 10" 40-lb., 8¼" 32-lb., and 6⅝" 26-lb. sizes and weights.

The next casing spot was 6,250 feet and D. M. Freeland, General Superintendent, placed an order for this amount of 4¾" 21-lb. Standard Seamless Steel Casing. This string of extra heavy seamless casing was made, delivered, and run successfully. Drilling operations were then resumed.

At the time this advertisement is written the well is drilling at 6,800 feet.

Other items of Frick-Reid equipment which have proven themselves worthy on this well include a 12-inch Double Genuine "Camel Hair" Drilling Belt and two Pure Manila Bull Ropes made by Whitlock.

In the foreground of the picture is a reel of 7,500 feet of ⅞" 6 x 19 Roebling Wire Line—the longest drilling line ever shipped to the Rocky Mountain District.

Feb. 12, 1925 A. A. Rollestone well at Longmont, Colo. drilling at 6260 feet using 7500 feet of ⅞ Roebling wire.

Pete Brown, tool pusher, Grant Uhl and W. E. Babione, drillers, Joe Whitmore and Bill Henshall tool dressers are shown draped about their special 7500 foot Roebling line.

Frick-Reid Supply Company

Tulsa, Okla. Pittsburgh, Pa.

West of the Mississippi — Stores Everywhere
East of the Mississippi—The Frick & Lindsay Co.

In Oil Country Equipment—the most HUMAN Organization in America

4 Gaines, 175 bbls. at 1,284 feet; Rhodes and others' No. 5 Prather, 20 bbls. at 1,320 feet.

Hutchinson County

Barnum and others' No. 1 Johnson, 30 bbls. at 3,100 feet.

Potter County

Amarillo Oil Co.'s No. 1 Warrick, 168 bbls. at 3,100 feet.

Carson County

Silk and others' No. 1 Burnett, 100 bbls. at 3,082 feet.

Baylor County

Grebin and others' No. 1 Anderson, dry at 1,710 feet; McCaldin and others' No. 1 Martin, dry at 1,753 feet; Strong and others' No. 1 Young, dry at 1,607 feet.

Clay County

Mitcham and others' No. 1 Sneed, dry at 2,020 feet; Gwynn and others' No. 1 Saner, dry at 1,154 feet.

Throckmorton County

Mitcham and others' No. 1 Horton, dry at 1,609 feet; McCastland and others' No. 1 Rogers, dry at 1,604 feet; The Texas Co.'s No. 1 Smythe, dry at 3,495 feet.

Shackelford County

Hope Petroleum Co.'s No. 10 Jeter, dry at 1,225 feet.

Palo Pinto County

Scott and others' No. 3 Wheeler, dry at 3,730 feet; Little Caddo Syndicate's No. 2 Mossie, dry at 1,893 feet.

Wichita County Drilling

Continental Oil Co.'s No. 6 Roller is plugging back to 1,050 feet; Magnolia Petroleum Co.'s No. 114 Reilly, drilling at 1,200 feet; Wilcox and others' No. 1 Abernathy, reaming; Panhandle Refining Co.'s No. 1 Nitsche, drilling at 1,825 feet; Apple and others' No. 11 Jennings, 1,545 feet; Atlantic Oil Producing Co.'s No. 1 Mitchell, underreaming; Bullington and others' No. 1 Jennings, drilling at 500 feet; Burnett Ranch Oil Co.'s No. 11 Burnett, 1,000 feet; Consolidated Oil Co.'s No. 1 Smythe, 900 feet; Dale Oil Corp.'s No. 10 Jennings, 1,400 feet; Empire Gas & Fuel Co.'s No. 11 Pierce, 881 feet; Hammon and others' No. 3-A McCarty, 1,100 feet; Hawkins and others' No. 1 Mitchell, 900 feet; Joe Howell and others' No. 4 Burnett, 1,360 feet; Howell and others' No. 1 Burnett, cleaning out at 1,598 feet; Maer and others' No. 2 Allen & Kemp, underreaming; No. 1 Waggoner Brothers, drilling at 800 feet; Magnolia Petroleum Co.'s No. 13 Douglas, 974 feet; No. 67 Hanaker, spudding; No. 20 Maer, drilling at 1,600 feet; No. 45 Rio Bravo, 1,465 feet; No. 46 Rio Bravo, 960 feet; No. 4 Watkins, 2,085 feet; O'Donohoe and others' No. 2-B Allen & Kemp, 900 feet; O'Neil and others' No. 15 Rio Bravo, 1,765 feet; Owens and others' No. 1 Mitchell, 1,200 feet; Petroleum Producers Co.'s No. 1-B Allen & Kemp, 620 feet; No. 1 Burnett, 1,685 feet; Powell Oil & Drilling Co.'s No. 1 Powell, fishing at 842 feet; Ridgeway and others' No. 1 Powell, drilling at 1,125 feet; Riggs and others' No. 2 Burnett, 1,500 feet; Rio Bravo Oil Co.'s No. 15-A fee, fishing at 1,955 feet; The Texas Co.'s No. 5-C Allen & Kemp, drilling at 680 feet; Texhoma and Cullum's No. 8-A Burnett, 1,598 feet; No. 5-B Burnett, 1,156 feet; Texhoma Oil & Refining Co.'s No. 4-C Burnett, 1,911 feet; No. 1-L Burnett, underreaming; No. 1-A Waggoner Brothers, drilling at 776 feet; Underwood and others' No. 2 Pace, 1,000 feet.

Wilbarger County Drilling

Atlantic Oil Production Co.'s No. 5 Zipperle is drilling at 600 feet; Beaty and others' No. 1 Waggoner (Section 47) drilling in oil sand at 1,958 feet; Brewer and others' No. 1 Schmoker, drilling at 1,700 feet; Bridwell and others' No. 6 Dill, running casing at 2,302 feet; No. 7 Dill, drilling at 1,925 feet; No. 1 McCrary, fishing at 1,420 feet; No. 1 Waggoner, drilling at 2,536 feet; Texas Pacific Coal & Oil Co.'s No. 1 Waggoner, 2,300 feet; Burton and others' No. 1 Castlebury, will shoot at 1,340 feet; No. 1 Waggoner, drilling at 2,135 feet; Consolidated Oil Co.'s No. 1 Kelly, 1,610 feet; No. 2 Waggoner, (Section 4), 800 feet; No. 1 Waggoner (Section 2), 900 feet; No. 1 Waggoner (Section 7), 1,710 feet; No. 1 Waggoner (Section 4, Block 5), spudding; No. 1 Waggoner (Section 27), drilling at 1,150 feet; Continental Oil Co.'s No. 5 Zipperle, 1,800 feet; Durham and others' No. 1 Waggoner, setting casing at 700 feet; No. 2 Waggoner, drilling at 1,050 feet; No. 3 Waggoner, 1,100 feet; Dyson and others' No. 1 Waggoner, 1,650 feet; Electra-Texas Oil Co.'s No. 2 Waggoner, 1,020 feet; Hofer Oil Corp.'s No. 1 Waggoner, spudding; Holmes and others' No. 1 Richardson, drilling at 940 feet; Humble Oil & Refining Co.'s No. 16 Castlebury, showing oil at 1,285 feet; No. 18 Stephens, fishing at 1,218 feet; No. 21 Stephens, fishing at 2,164 feet; No. 22 Stephens, drilling at 723 feet; No. 23 Stephens, 530 feet; No. 24 Stephens, 829 feet; No. 25 Stephens, 756 feet; No. 26 Stephens, 1,453 feet; Kolp and others' No. 4 Waggoner, fishing at 1,810 feet; No. 5 Waggoner, fishing at 1,760 feet; No. 7 Waggoner, drilling at 1,500 feet; Lawson and others' No. 4 Waggoner, 1,750 feet; No. 6 Waggoner, 1,800 feet; No. 7 Waggoner, 1,760 feet; Mattylee Lippard's No. 1 Waggoner, 1,985 feet; No. 3 Waggoner, 2,098 feet; Litchfield and others' No. 1 Pyle, underreaming; McKanna and others' No. 1 Waggoner (Section 48), drilling at 885 feet; McLester Oil Co.'s No. 1 Waggoner, 1,150 feet; Maer and others' No. 1 Showers, 1,400 feet; No. 1 Waggoner, (Section 4), 1,200 feet; Magnolia Petroleum Co.'s No. 68 fee, spudding; No. 44 Piper, drilling at 1,570 feet; No. 48 Sumner, 1,275 feet; No. 1 Moore-Waggoner, 1,290 feet; Maxwell and others' No. 1 Morris, 1,880 feet; Panhandle Refining Co.'s No. 1 Key, 1,427 feet; Prairie Oil & Gas Co.'s No. 1 Waggoner, 1,475 feet; Priddy and others' No. 4 Castlebury, fishing at 950 feet; No. 6 Castlebury, drilling at 600 feet; Root and others' No. 1 McCrary showing oil at 1,936 feet; Smith and others' No. 1 Waggoner (Section 4), drilling at 400 feet; No. 1 Waggoner (Section 35), 1,200 feet; Simms Oil Co.'s No. 1 Collins, fishing at 1,160 feet; South Vernon Oil Co.'s No. 1 Zipperle, drilling at 1,284 feet; The Texas Co.'s No. 1-B Castlebury, running casing at 2,583 feet; No. 300 Waggoner, drilling at 725 feet; Texhoma Oil & Refining Co. and Burton's No. 1 Waggoner, 800 feet; Texhoma Oil & Refining Co. and Holmes' No. 1 Flaniken, 700 feet; No. 1 Thomas, fishing at 1,620 feet; Wells and others' No. 1 Waggoner, drilling at 1,470 feet; Whibert Oil Corp.'s No. 1-B Waggoner, 600 feet; No. 1-C Waggoner, fishing at 530 feet; No. 1-D Waggoner, drilling at 250 feet; Winnipeg Oil Co.'s No. 9 Bond, 600 feet; No. 10 Bond, underreaming; Wood and others' No. 1 McGill, drilling at 910 feet.

Archer County Drilling

Carter and others' No. 3 Ferguson, showing oil at 1,767 feet; Shappell Oil Co.'s No. 20 Jackson, drilling at 1,720 feet; Texhoma Oil & Refining Co.'s No. 4-L Ferguson, underreaming; No. 5 Hamilton, spudding; Wolfe & Son's No. 4 Chilson, drilling at 1,500 feet; Beaudois and others' No. 1 Carter, 1,320 feet; Burns and others' No. 1 Wilson, showing oil at 1,484 feet; Camp Oil & Gas Co.'s No. 7 Wilmot, underreaming; Franklin and others' No. 9-B Parrish, showing oil at 1,566 feet; McCracken and others' No. 1 Fuller, drilling at 275 feet; Norwood and others' No. 1 Carson, 1,495 feet; O'Donohoe and others' No. 1 Perkins, 960 feet; Phillips Petroleum Co.'s No. 64 White, 500 feet; No. 65 White, 1,000 feet; No. 66 White, 1,400 feet; Prairie Oil & Gas Co.'s No. 10-A Wilson, 1,570 feet; Riner and others No. 11-A Wilson, 800 feet; No. 20-B Wilson, 1,500 feet; Smith and others' No. 1 Perkins, 300 feet; Texhoma Oil & Refining Co.'s No. 5-E Wilson, showing oil at 1,580 feet; Wichtex Oil Co.'s No. 1 Wilson, drilling at 450 feet; Burns and others' No. 1 Cowan, 800 feet; Crosslin and others' No. 1 Garvey, 1,340 feet; Magnolia Petroleum Co.'s No. 5 Coffield, 700 feet; No. 7 Llewelyn, 300 feet; McGregor and others' No. 7 Llewelyn, 1,000 feet; Young Brothers' No. 1 Coody, 600 feet; Bradford and others' No. 1 McMurtry, 490 feet; British American Oil Co.'s No. 9 Rogers, 1,255 feet; Brunson and others' No. 1 Prideaux, 1,280 feet; Cerf and others' No. 1 Prideaux, 560 feet; Christie Brothers' No. 5 Campbell Bank, 1,145 feet; Continental Oil Co.'s No. 5 Rogers, 930 feet; County Line Oil Co.'s No. 6 Stampfli, 1,230 feet; Davis Hart Co.'s No. 9 Roach & Junker, underreaming; Dolman and others' No. 1 Prideaux, fighting cave at 430 feet; Duke and others' No. 1 Andrews, drilling at 680 feet; Foster and others' No. 1 Andrews, 2,845 feet; Griswold Oil Corp.'s No. 1 Martin, 1,028 feet; Humble Oil & Refining Co.'s No. 1 Brom, underreaming; Independent Oil & Gas Co.'s No. 1 Bloodworth, drilling at 1,172 feet; Magnolia Petroleum Co.'s No. 2 Rogers, 1,305 feet; No. 8 Stampfli, 1,310 feet; No. 9 Stmapfli, 1,295 feet; Moore and others' No. 3 Rogers, underreaming; Murchison and others' No. 1 Campbell Bank, drilling at 150 feet; No. 8 Echols, 1,120 feet; No. 9 Echols, 1,017 feet; No. 5-L Harmel, 425 feet; No. 11-C Harmel, 450 feet; Muse and others' No. 4 Lowe, 400 feet; Norman Oil Co.'s No. 1 Goldsmith, setting casing at 1,340 feet; Panhandle Refining Co.'s No. 3 Rogers, underreaming; Prairie Oil & Gas Co.'s No. 20-B Richardson, spudding; Ray and others' No. 1 Routan, drilling at 1,100 feet; Richardson's No. 1 Pankonin, 100 feet; Rowe Drilling Co.'s No. 1 Hamilton, 1,030 feet; Sheldon and others' No. 2 Campbell, 980 feet; No. 1 Walsh, 1,227 feet; Strong and others' No. 1 Wright, 1,453 feet; The Texas Co.'s No. 3 Goldsmith, 180 feet; No. 1 Phillips, 815 feet; United Central Oil Co.'s No. 9 Rogers, fishing at 1,175 feet; Verschoyle and others' No. 1 Bounds, drilling at 1,330 feet; Wellman and others' No. 1 Andrews, 210 feet.

Young County Drilling

Burton and others' No. 1 Hankins, drilling at 320 feet; No. 1 Meyers, 760 feet; Christie Brothers' No. 4 McLaren, fishing at 2,411 feet; Consolidated Oil Co.'s No. 1 Bullock, feeling for oil sand at 755 feet; Dunn & Co.'s No. 1 Craig, drilling at 4,030 feet; Henson's No. 1 Laquey, 2,410 feet; Hofer Oil Corp.'s No. 1 Logan, underreaming; Holder and others' No. 1 Johnson, drilling at 730 feet; Humble Oil & Refining Co.'s No. 18 Schlegel, 600 feet; Lea and others' No. 1 Vernon, 1,150 feet; Lowery and others' No. 1 Atchley, 1,021 feet; Mahlstedt-Mook Oil Co.'s No. 1-B Logan, underreaming; McQuain and others' No. 1 Donnell, drilling at 620 feet; Mission Oil Co.'s No. 1 McKeichan, 420 feet; Moore and others' No. 1 Thedford, 3,230 feet; Murchison and others' No. 16 Schlegel, fishing at 1,190 feet; Panhandle Refining Co.'s No. 7 Gambrell, drilling at 1,160 feet; No. 8 Gambrell, 1,188 feet; Parker and others' No. 1 Blancett, 630 feet; Richardson Brothers' No. 1 Johnson, 810 feet; Simms Oil Co.'s No. 9-B Carpenter, 400 feet; Sinclair Oil & Gas Co.'s No. 4 Moran, 1,810 feet; Stovall and others' No. 3 fee, 3,375 feet; Sun Oil Co.'s No. 3 Donnell, spudding; The Texas Co.'s No. 1 Carr, drilling at 1,480 feet; Vance and others' No. 1 Daws, cleaning out at 3,025 feet; Welch and others' No. 1 Cathey, testing sand at 1,175 feet; Wrenn and others' No. 1 Boley, drilling at 850 feet.

Stephens County Drilling

Gray and others' No. 1 Ward, cleaning out at 3,333 feet; Humble Oil & Refining Co.'s No. 6 Keel, fishing at 3,110 feet; Mid-Kansas Oil & Gas Co.'s No. 11 Atkins, Account 1, drilling at 2,351 feet; No. 13 Hill, Account 1, reaming; No. 16 Hill, drilling at 1,075 feet; Oliver Oil & Gas Co.'s No. 1 Barcom, 3,852 feet; Pender Production Co.'s No. 5 Keel, 3,228 feet; Phillips Petroleum Co.'s No. 1 Allen, 2,620 feet; Republic Production Co.'s No. 6 Knox, spudding; Roeser & Pendleton's No. 5 Bell, drilling at 2,650 feet; Rosell Production Co.'s No. 2-B Brown, showing oil at 3,217 feet; Sun Oil Co.'s No. 5 Stoker, drilling at 1,950 feet; Texas Pacific Coal & Oil Co.'s No. 4 Kirtley, 1,595 feet; Barkley and others' No. 2 Pritchard, 900 feet; No. 3 Pritchard, spudding; Brown & Co.'s No. 2 Akin, underreaming; Buckeye Pipe & Supply Co.'s No. 1 Pisgah Church lot, underreaming; Carter and others' No. 1 Pritchard, drilling at 580 feet; No. 3 Pritchard, spudding; Carter & Thompson's No. 2 Langford, fishing at 3,325 feet; Carter & Thompson's No. 3 Langford, drilling at 880 feet; Corzelius and others' No. 1 Spicer, 1,000 feet; Edson and others' No. 2 Crowley, 1,450 feet; Halcomb and others' No. 1 Ming, 3,350 feet; McLester Oil Co.'s No. 1 Pritchard, 1,030 feet; Magnolia Petroleum Co.'s No. 5 Walker, 3,180 feet; Moorman and others' No. 1 Pace, 1,230 feet; Pardee and others No. 1 Ramsey, underreaming; Pender Production Co.'s No. 1 Elder, drilling at 3,560 feet; Phillips Petroleum Co.'s No. 2 Moore, 2,400 feet; Prairie Oil & Gas Co.'s No. 4 Bruce, 1,472 feet; Simms Oil Co.'s No. 5 Decker, 2,080 feet; Texas Pacific Coal & Oil Co.'s No. 1 Adams, 2,185 feet; No. 3 Gardenshire, 1,350 feet; No. 2 Hand, Account

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NEW METHOD FOR CLEANING OUT OIL WELLS WITH COMPRESSED AIR

At a meeting of the Mid-Continent Section of the American Institute of Mining and Metallurgical Engineers held in the Municipal Building at Tulsa, Okla., a paper prepared by A. A. Beard, vice president and general manager of the Tidal Oil Co., was read by Robert A. Bonnell of the Tidal Oil Co. The paper was entitled "Cleaning Out Wells With Compressed Air."

In the trying times which have been the lot of the petroleum industry during the last four years, a system of cleaning out old wells with splendid results and limited cost is bound to attract considerable attention, and the paper written by Mr. Beard will interest every producer who ever has occasion to use a string of cleanout tools. Mr. Beard, who was recently elevated to the vice presidency of the Tidal Oil Co., is a veteran oil man, and has made an intensive study of operating and production costs.

The cleaning out of old wells has long presented a serious problem to the producing departments. The moving of the cumbersome tools from one lease to another, the necessary rebuilding of the old rigs, the time lost in rigging up the cleanout string are in themselves expensive delays. The entire process of cleaning out proceeds under an atmosphere of sluggish inertia, and is diametrically opposed to the snappy action of the drilling crew when the hole is being made round and deep. The wrist pin put back in the second hole of the crank, the throttle wheel holding the telegraph cord in restraint and permitting the beam to nod very slowly to and fro to a lethargic rythm, the slow moving old driller, who usually has passed his days of usefulness for "running tour" and must hereafter run on the cleanout string, the green toolie who (like the writer years ago) has not yet graduated to the drilling well; all these contribute very little to the production of the lease.

After several days or weeks of cleaning out an old well, one must wonder if the expense was justified by the very limited increase in the well's production. And now comes a new method, which, while it may not have attained perfection, certainly sounds feasible, and would seem by the results of Mr. Beard's company to merit at least a good trial on old leases.

In the event that it should work to the advantage of other producers as it has to the Tidal Oil Co., the future years may place the Bartlesville sand much higher up in the ranks of prolific sands, and may permit it to equal the performance of the Bradford sand of Pennsylvania. The Bartlesville is a tight hard sand, and one which naturally received a very heavy shot. From Mr. Beard's paper it would seem the new process should work to good advantage on this character of sand, and if so, it would be well to consider the vast territory in the Osage and the old Bartlesville fields that will be affected.

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The refiner who pays his good money for the privilege of converting good gas oil into fuel oil by cracking, may some day explain to his stockholders and creditors why he did it, if the sheriff doesn't get the explanation first

Every liquid product of the Dubbs Cracking Process is of equal or higher value than the charging stock from which it is cracked and gives a larger yield of gasoline in one throughput and at lower cost per gallon than is possible by any other method

Universal Oil Products Company
Owners of the Dubbs Process
310 South Michigan Ave
Chicago Illinois

Kentucky—Tennessee

By Vern T. Whitney

Owensboro, Cumberland County and Greenup County most active areas. Union Gas & Oil Co. has four producers in North Weir, aggregating 210 bbls. M. L. Gartlan's Kettle Creek well pumping 250 bbls. McClintock and others' Sulphur Creek well showing for 200 bbls. Pulsey Creek production extended.

BOWLING GREEN, Ky., May 18.—While drilling activity in the Blue Grass State as a whole is quieter than for some time, there are a few spots where a very considerable amount of new work can be looked for. Chief among these localities may be mentioned the Owensboro district, in northern Kentucky, Cumberland County in the southeastern section of the State, and Greenup County in the extreme northeastern corner. Areas in Tennessee that are being drilled rapidly are the Tinsley Bottom Section in Clay and Jackson Counties and the Sunbright district in Morgan County.

Week's Work

During the past week 28 completions were recorded in Kentucky, 18 of them producers with a total initial yield of 420 bbls., 8 dusters and 2 gassers. Compared with the previous week this shows 10 less completions, the same number of producers, 2 more dry holes, 2 less gas wells and a decrease of 303 bbls. in flush production. The wells were distributed by counties as follows

County—	Comp.	Wells	Prod.	Dry	Gas
Barren	7	3	15	4	0
Owensboro district	6	5	156	1	0
Allen	4	2	17	2	0
Lawrence-Johnson	4	4	200	0	0
Warren	2	2	6	0	0
Martin	2	0	0	0	2
Cumberland	1	1	25	0	0
Wayne	1	0	0	1	0
Estill	1	1	1	0	0
Total	28	18	420	8	2
Last week	38	28	723	6	4
Difference	10	10	303	2	2

Gain in Production

Crude petroleum produced in Kentucky during March totaled 580,750.12 bbls., valued at $1,380,957.43, an increase of 48,818.50 bbls. over February, according to a report made public by the State Tax Commission. The 1 per cent tax netted $13,809.57 to the State Treasury.

The Cumberland Pipe Line Co., Inc., led the list with 316,783 bbls. The Indian Pipe Line Corp. followed with 76,952 bbls., and the Great Southern Refining Co. was third with 66,611 bbls. The Petroleum Purchasing Co. reported 43,332; Paragon Development Co., 17,700; the Old Dominion Transportation Co., 15,237; the National Refining Co., 13,256.40; Riggs Refinery, 11,517.10; Eastern Gulf Co., 8,472; Stoll Oil Refining Co., 5,098; Glasgow Oil & Refining, 2,106; New Domain Oil & Gas, 1,416; Cooper Flash Oil, 1,143; Swiss Oil Corp., 488; Wood Oil, 245; Oscamp Development, 238; C. E. Daugherty & Co., 94 bbls.

Lee County showed the largest production, 162,108 bbls., valued at $403,626.91; Johnson, second with 91,600 bbls.; Magoffin third, with 80,885 bbls., and Warren County fourth with 48,251 bbls.

Other counties showing production were Lawrence, Allen, Barren, Bath, Boyd, Clinton, Cumberland, Elliott, Estill, Floyd, Hancock, Hopkins, Jackson, Knott, McCreary, Monroe, Morgan, Ohio, Owsley, Powell, Simpson, Wayne and Wolfe.

Owensboro District

Work in the Owensboro district, comprising Hancock, Ohio and Daviess Counties, in northern Kentucky, is on the increase and during the week several locations were made and a number of wells were spudded.

In the Swope Pool, 2 miles southwest of the Hurricane district, Chicago Petroleum Syndicate, Palmer Brothers interest, is starting No. 1 Ira Crowe, west of the Colonel Powels well; the Stephenson Oil Co. is spudding No. 1 Gunther & Gant, 1,200 feet south of the Colonel Powers; the Pennsylvania Oil Syndicate is moving a rig to the Simpson heirs place, adjoining the Widow Crowe to the northeast; No. 2 John Swope is drilling, one location west of the Col. Powers and No. 3 has been located to offset No. 4 Widow Crowe; same concern's No. 2 Pol. Powers is on top of the pay; the Wood Oil Co. is moving tools to No. 1 Holbrook, 1 mile south of the Col. Powers; C. E. Daugherty is spudding No. 5 Widow Crowe, 800 feet east of No. 5.

In the Pellville Pool, 10 miles northeast of Whitesville, O. C. Boop is starting No. 1 G. Midkiff, adjoining the A. Stewart to the west; Bert Thompson's No. 2 Oscar Long, south of No. 3 Brown, is drilling at 440 feet; C. A. Leeper's No. 5 E. Barlow, 400 feet west of No. 1, is on top of the sand.

In the Hurricane Pool, 4 miles southeast of Pellville, I. N. Harkless has located No. 3 Dick Spurrier and is spudding No. 9 J. T. & A. T. Casey. At Herbert school house, 2½ miles south of Pellville, the Pensylvania-Indiana Oil Syndicate is spudding No. 10 F. V. Miller, south of No. 9; Panther Creek Oil Co.'s No. 6 J. W. Smith, east of No. 5, is spudding; No. 14 R. M. Miller is making hole in the Barlow formation.

Completions

The feature well in the Owensboro district is C. A. Leeper's No. 3 Collier, at Collier Station, 1½ miles southwest of the Swope Pool, reported last week. It is now estimated good for between 75 and 100 bbls. at 550 feet. The Jett sand topped at 500 feet and drilled through at 530 feet, was shot with 50 quarts of nitro. Shortly after the shot the well flowed to the top of the mast and continued doing so at 30 minute intervals from an open hole until drowned out so that casing could be set. This is the first well of any size to be brought in in this pool and of course has created much interest. On the Evans farm, same district, the Triangle Oil Co.'s No. 5 Evans is but a 3-bbl. pumper in the Jett sand. No. 6 is starting.

In the Hurricane Pool, I. N. Harkless finished No. 7 J. T. & A. T. Casey in the Jett sand from 455 to 485 feet. It made 61 bbls. the first pumping and 35 bbls. the second. No. 8 is spudding and location made for No. 9.

In the Herbert school house area, the Panther Creek Oil Co.'s No. 5 J. W. Smith, is a 10-bbl. pumper from the Jett and Barlow sands.

In the Swope Pool, C. E. Daugherty completed No. 4 Widow Crowe, good for 28 bbls. at 785 feet. The Barlow sand from 765 to 780 feet was shot with 80 quarts of nitro. Late reports state that the well is holding up at 12 bbls.

Bert Thompson's No. 6 J. O. Brown, in the Pellville Pool, is dry and abandoned in the Jett sand.

Barren County

The Gorby Pool, 3 miles south of Glasgow, in Barren County, came to the fore the past week with a good completion on the Cassidy farm, operated by T. L. Gorby, estimated at 20 bbls. It is No. 4 on the lease and was finished in the deep pay at 180 feet below the shale. The Gorby Pool is drifting toward Glasgow, and, with seven rigs operating, the future of this pool will not long be secret. This pool is only a few miles from the old "Oil Creek Pool," where oil was first found in Barren County, when old settlers, drilling for salt water, brought in a gusher at a shallow depth that flowed for some time into a small stream and ran off down the creek. The oil in the creek was accidentally ignited, sending up a blaze 100 feet high, frightening the residents for miles around, according to old timers.

An incident told in connection with the drilling of this old well that the old residents never grow tired of telling is that the well was drilled by placing a long pole on a beam and the drill moved up and down by springing the pole, using manpower altogether. Just a few moments before the well gushed a passerby ventured the information that they would find no salt water there. One of the drillers remarked, "We shall keep drilling until we strike salt water or hell." In a few moments there was a terrific roar and a stream and amber fluid went several hundred feet into the air. The driller ran and with his remark of a short time before in his mind he passed the man to whom it was made and yelled: "Say, feller, you'd better run; we've struck something and it ain't salt water."

Completions

In the Emery-Moore Pool, Ziegler Brothers got a dry one in No. 6 Drennan in the deep sand; Star Oil Co.'s No. 19 Ritchie is good for 8 bbls. at 530 feet.

In the Gorby Pool, T. L. Gorby's No. 1 Everett is a 3-bbl. pumper; Citizens Oil Co.'s No. 1 Judge Bybee, dry in the deep pay at 180 feet below the shale; L. J. Emery's No. 1 Preston is dry in the deep pay.

In the Hall-Baker Pool, the Wood Oil Co.'s No. 1 Harvey is dry and plugged at 906 feet; Harrington & Norris Brothers got a 4-bbl. pumper in No. 4 Evans from the 180-foot sand.

Drilling Operations

Star Oil & Gas Co.'s No. 6 Star, on top of the pay; No. 20 Ritchie, cleaning out after shot; No. 21 drilling at 300 feet and No. 22 spudding at 50 feet; Gillespie & Wiggin's No. 9 Scott, drilling at 210 feet; Fred Moore's No. 10 fee, drilling in; No. 4 Bruton, drilling at 400 feet; Henderson Oil Co.'s No. 7 Burris, 220 feet; Ziegler Brothers' No. 1 Green, 1,130 feet; T. L. Gorby, spudding No. 1 Sanders; No. 1 Bybee is below the shale; J. L. Porter's No. 5 McLaughlin, drilling at 293 feet; L. J. Emery's No. 6 Greer,, 450 feet; Wood Oil Co.'s No. 8 W. M. Church, testing; No. 9 is spudding; Harrington & Norris' No. 5 Evans, waiting on shot.

Cumberland County

It is reported that the wildcat being drilled by Reid, McClintock and Heckathorn on the Hughes farm on Pulsey Creek made several flows at 10 feet in the second Sunnybrook sand, topped at 454 feet, before it could be capped in. This test is 2½ miles from the nearest production and opens up a large amount

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Fields of the Central West

By Whit

FINDLAY, Ohio, May 18.—That the oil business in the Central West Field is not a dead issue, as some folks will say, is best illustrated when figures are given that are as correct as can be ascertained. According to pipe line reports for the year 1924 the Ohio, Indiana and Illinois Fields that constitute the Central West Field, totaled 15,774,000 bbls. Whether or not this area can maintain its production by new drilling for the year 1925 remains to be seen. The chances are more favorable to increase it, if the drill keeps moving along as it does at the present time. But to maintain the average production operators in Illinois and Indiana must speed up their work, as both States are showing but little work. Ohio is maintaining its share of new work and slightly increasing its daily production. The largest production naturally comes from the Illinois Field, as the wells in the Lawrence County Field of that State show remarkable staying qualities owing to the several producing sands developed in each well from a shallow depth to as deep as around 2,000 feet, the deepest sand in this county being the heaviest producer and known as the McCloskey, which resembles much the Gordon sands of the East.

The reports of the Central West Field for the past couple of months are in keeping with the best months of the previous year.

The Lima Field made a remarkable spurt during the week, there being a total of 29 completed wells reported. Of this number 25 were oil producing wells, with a flush of 473 bbls., two dry holes, one gas well and one salt water producer. This is one of the most active weeks of the current year.

Paulding County has another well that is showing for above the century mark in production. It is John C. Schunck's No. 3, along the west line of the C. C. Springer farm, Section 34, Harrison Township, and just at the outer edge of the town of Payne. The exact location of the new well is 600 feet from the south line and 150 feet from the west line of the farm and it is really an offset to the recent good well of the U. S. A. Oil Co., on the Bailey heirs farm. The Trenton was topped at 1,407 feet and drilled 38 feet in, and to what is known as the second pay sand. The well filled up with 900 feet of fluid and with a nice gas volume. The well was given a 100-quart shot and after cleaning itself, settled down and gathered pressure, when it was connected to tankage 1,500 feet away from the well, which then shot oil through the long line under its own pressure and has been estimated at a flush of 200 bbls., which may be a little overestimated, but looks equally as good as the U. S. A. Oil Co.'s No. 3 Bailey heirs farm, which put close to 2,000 bbls. in tankage since completed and is now doing, according to pipe line reports, 22 bbls. a day. Additional tankage is being erected at the Springer well and will be run direct from the tankage to the tank cars. The oil is said to be 38 gravity.

This lease contains 79 acres, so that at least a dozen wells can be drilled upon it and just adjoining town lots of the new oil town of Payne. It may mean a drilling of town lots as the supposition is that the productive anticline lies over the entire town. Taking this well with the one on the Bailey heirs should bring about a real drilling campaign in the new field. The U. S. A. Oil Co. is starting No. 4 on the Bailey heirs farm, Sec-

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Fisher Dependable Specialties

These dependable specialties have become standard in the oil fields, performing a service in the control and regulation of fluids and gas which makes them indispensable.

Correct mechanical construction and materials and careful workmanship are essential if a regulating device is to function properly and give satisfaction under critical conditions. But FISHER quality goes much further than this. It comprehends the application of our vast experience to the interpretation of your order. If we know precisely what service a FISHER device will be expected to perform, oftentimes we can suggest means of lessening initial outlay and reducing maintenance cost.

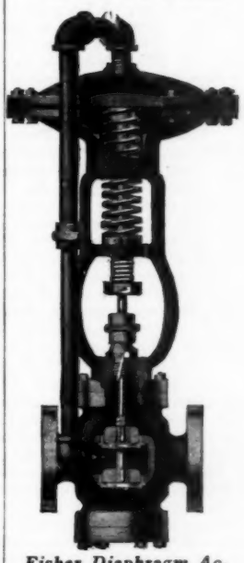
FISHER durability is marvelous. Now and again we learn of the performance of some of the first FISHER products. Most of them are still on the job and giving satisfactory service.

Every article manufactured in the Fisher factory is sold under an iron clad guarantee to render a certain service. No sale is fully consummated until the purchaser is satisfied that the article is doing all claimed for it.

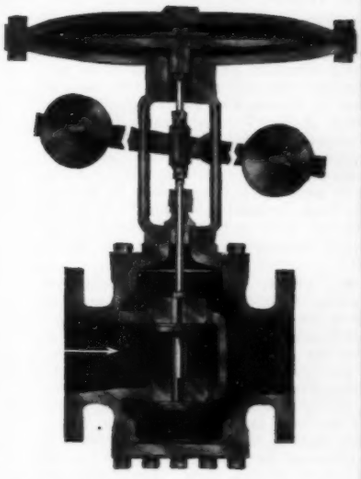
In addition to the regular line of Fisher Specialties, the factory is prepared to furnish special work from specifications. Its engineering department is well able and will be glad to assist you in solving your problems relating to regulating devices.

Fisher Governor Company
Marshalltown, Iowa
Distributed by
SMITH SEPARATOR COMPANY
TULSA, OKLA.

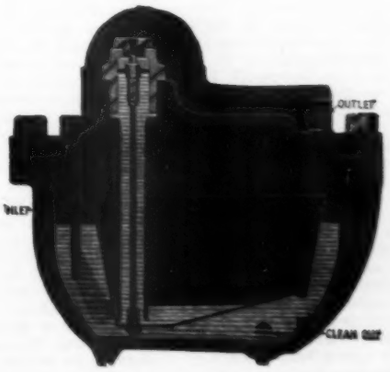
Fisher Liquid Level Controller—Type 227-A. Used on stills, absorber towers, closed tanks and receivers where no manholes are provided or where an outside float control is preferred.



Fisher Diaphragm Actuated Relief Valve—Type 505. For installations on weathering tanks and other places where high class relief valves are required. The Diaphragm is well constructed and is readily affected by the slightest change in pressure.



Fisher Vacuum Valve-Type 88. Installed on the gas line to the gasoline plant, enabling the operator to maintain a constant vacuum in the tanks from which he is pulling gas, and at the same time protects the tank from being pulled in.



Fisher Gasoline Trap—Type 333. This specialty is valuable where gasoline is manufactured under pressure, or is useful in taking gasoline out of gas lines.

Pennsylvania-West Virginia

By D. S. Wakenight

Edward H. Everett Co. well in Hanover Township, Licking County, Ohio, flows and swabs 105 bbls. Tague, Lutton & Co. get another good producer in Washington County, Pennsylvania, making 100 bbls. Greene County well flows 46 bbls. in two and a half hours. Ligonier deep test at 7,702 feet.

PITTSBURGH, Pa., May 18.—The Eastern Fields completed quite a number of wells, but very few above the average size. Market conditions were unchanged and operators still waiting for an advance in the market for crude of the Pennsylvania grade. There seems to be a more optimistic feeling and an advance in the near future would be no surprise. Weather conditions have been against field work and no noticeable increase in the demand for gasoline up to the present time. The tourist travel through the east has been very light.

In Hanover Township, Licking County, Ohio, in the deep sand territory, the Edward H. Everett Co. completed and shot in the Clinton sand, No. 8 on the Felix Claypool farm. By flowing and swabbing the well produced 105 bbls. the first 24 hours. The location is 800 feet north of No. 7 on the same farm. In Newton Township, I. J. Denbow & Co. completed and shot in the Berea grit a second test on the Carey Weiss farm. It is good for 5 bbls. a day. In Section 20, York Township, Morgan County, the Sun Oil Co.'s test on the Joseph Longstreth farm, is a gasser in the Berea grit.

In Liberty Township, Washington County, Charles L. Erb & Co. completed in the stray sand No. 4 on the Harvey Scott farm, a good gasser. In Section 20, same township, Ernest Epler & Co. have started to drill a test on the Hugh King farm. In Newport Township, S. A. Cunningham started to drill a test on his own farm. In Alexander Township, Athens County, Gross, Frebault & Co. started to drill a second test on the Daniel N. Hiffins farm. The Biddle Oil & Gas Co. started to drill another test on the Frank Biddle farm.

Town Lot Producer

In the village of Rushville, Section 28, Richland Township, Fairfield County, the Rushville Oil & Gas Co. cleaned out and shot in the Gordon sand its test on the Robert Hyde town lot. It is good for 10 bbls. a day. This well was formerly a gasser and the location is 1,500 feet west of the company's test on the Stephen Young farm. In the Chesterhill district, fractional Section 7, Marion Township, Morgan County, Dunn & Burns completed No. 15 on the Smith farm and showing for a very light pumper in the first Cow Run sand. In Section 27, Ludlow Township, Washington County, Savage & Co. started to drill on the D. B. Mulinex farm.

In Knox Township, Jefferson County, S. H. Boyce & Co. completed in the Berea grit No. 4 on the W. L. Groves farm good for 5 or 6 bbls. a day. In Section 1, Jackson Township, Noble County, Everett Briggs and others drilled a test on the F. E. Ogle farm through the Buell Run sand good for 2 bbls. a day. In the Wellsville Pool, Yellow Creek Township, Columbiana County, C. S. Peters and others drilled a test on the A. Zacharias farm through the Berea grit, showing for a very light pumper.

Washington County

In Lawrence Township, Washington County, in Section 2, J. T. Campbell & Co. completed a good salt sand gasser at a second test on the Blazier heirs' farm. The location is 1,100 feet west of the Fort Cumberland Oil Co.'s test on the Charles Skinner farm. In Section 19, Liberty Township, Beeson Bailey & Co.'s No. 8 on the James R. Heslop farm, is a 2-bbl. pumper in the second Cow Run sand at a depth of 1,070 feet. In Newport Township, O. C. Reckard & Co.'s second test on the Dishler heirs' farm, like the company's first test on this farm, is a duster. In Muskingum Township, S. A. Palmer & Co.'s No. 3 on the M. Schantz farm is also a duster. In Section 18, Madison Township, Perry County, the Flint Ridge Oil & Gas Co. is building the rig for a second test on the A. Burgers farm, located 600 feet west of the first test.

Fair Producer in Perry

In Section 35, Coal Township, Perry County, located 1,500 feet south of the Sunday Creek Coal Co.'s No. 124, the Dugan Hill Oil & Gas Co. completed and shot in the Clinton sand a second test on the C. A. Grummon farm. The well responded with a production of 25 bbls. the ensuing 24 hours. The Clinton Oil & Gas Co. drilled its second test on the Edward Morrow farm, in Section 28, Richland Township, Fairfields County, through the Clinton sand and dry. The location is 1,200 feet south of the first test.

In Section 19, Enoch Township, Noble County, Albert P. Schentz & Co. have a very light pumper in the Buell Run sand at No. 4 on the Thomas Hupp farm. In Section 31, same township, H. B. Tuttle & Co.'s test on the Benjamin Corp farm is a gasser in the Berea grit. In Section 36, C. D. Harper & Co.'s second test on the Martha E. Murray farm is a duster in the 700-foot sand. In the same section, Williams & Clark had the same luck at a second test on the J. W. Williams farm. In Section 1, Jackson Township, Worrel Brothers & Co.'s test on the J. B. Hutcheson farm is good for 4 bbls. a day in the Peeker sand. In Section 6, Enoch Township, C. D. Harper & Co. are due in the sand at a test on the Forrest Moore farm.

In Section 7, Harrison Township, Muskingum County, the Carter Oil Co. drilled No. 3 on the R. H. Findlay farm through the Berea grit and not good for more than 2 bbls. a day. The location is 600 feet west of the test on the W. S. Hutson farm. In Brush Creek Township, it has a gasser at a test on the J. C. Leffler farm. In Section 19, York Township, Morgan County, the Arkansas Oil & Gas Co. completed a second test on the Roy Floyd farm, a light gasser. The location is 800 feet northeast of the first test.

In Section 30, Alexander Township, Athens County, the Townsend Oil & Gas Co. drilled its old gasser on the Sarah E. Penrod farm through the lower sands and dry. It has been plugged and abandoned. In the same township, Gross & Frebault completed and shot a second test on the N. W. Radford farm, good for 15 bbls. a day. The East Ohio Producing & Refining Co. completed a test on the Jacob Mosier farm, in Section 13, Brown Township, Knox County, showing for a light pumper in the Berea grit. The location is 1,500 feet southeast of the company's No. 13 on the M. S. Snively farm. In Section 9, Knox Township, Guernsey County, the Ohio Fuel Gas Co.'s test on the John C. Wilson farm is a gasser in the Clinton sand, good for 500,000 feet. In Section 2, Franklin Township, Licking County, Moore & Adams have a light pumper in the Berea grit at No. 11 on the T. L. Stevens farm.

In Section 32, Coal Township, Perry County, the Chartiers Oil Co. completed and shot in the Clinton sand No. 194 on the Hocking Valley Products Co.'s property. It produced 19 bbls. the first 24 hours. The Carter Oil Co. drilled its second test on the Acker heirs' farm, in Section 12, Ward Township, Hocking County, through the Clinton sand and dry. This location is 700 feet west of the Sunday Creek Coal Co.'s No. 118. In the Macksburg district, Section 15, Jackson Township, Noble County, O. O. Kinsey drilled his No. 4 on the Elmer Hesson farm through the Berea grit, showing for a 4-bbl. pumper. In Section 11, Franklin Township, Monroe County, Cunningham & Beker completed a test on the Herman C. Beker farm good for 10 bbls. a day in the Big Injun sand.

In Eden Township, Licking County, W. W. & A. T. Wehrle got a surprise when they drilled what was intended to be a deep test on the Margaret Oatman farm into the big lime formation. The well made such a good showing that they put it to pumping from that formation and it produced 40 bbls. the first 24 hours. Part of this production has been standing in the hole and it rapidly declined to 10 bbls. a day.

In the Berea grit development in Section 20, York Township, Morgan County, the Pure Oil Co. completed and shot in the Berea grit a second test on the Clarence Fye farm, good for 10 bbls. a day. For more than a year this pool has been furnishing better producers than any other shallow sand district. The company has started to drill a test on the Wilber Bush farm. The pool has been defined and operations have declined. There are but three rigs up and five wells drilling. In Section 2, Jefferson Township, Noble County, Hackett & Metcalf have a light pumper in the Buell Run sand at a test on the W. Heddleson farm. In Section 13, Olive Township, George White and others have a duster on the Melroy Jereles farm. In Enoch Township, Felix Gerst & Co.'s No. 4 on the Frederick Blake farm is also a duster. In Brown Township, Knox County, the East Ohio Producing & Refining Co. is due in the sand at a second test on the Ellen Scholes farm. In Sutton Township, Meigs County, W. N. Hovis & Co.'s test on the O. C. Watson farm is dry in the Cow Run sand.

Starting New Work

In Newton Township, Licking County, I. J. Denbow and others started to drill a second test on the Jacob Weiss farm. In the same township, E. J. Edmonds & Co. are drilling No. 5 on the Robert Starrs farm. In Bowling Green Township, the Midland Oil Co. started to drill No. 4 on the Murray Bowser farm. Watson and others started to drill a test on the Grass farm, in Lot 3, Alexander Township, Athens County. Gross & Frebault are rigging up at a second test on the Daniel Higgins farm. The Biddle Oil & Gas Co. is rigging up at No. 3 on the Frank Biddle farm. In Section 10, Perry Township, Licking County, the Pure Oil Co. started to drill No. 3 on the L. E. Seward farm. It will drill to the Clinton sand. In Lot 15, Hanover Township, M. F. Whitehill started to drill to the same formation No. 4 on the James B. Simpson farm. In the same lot and township, the Edward H. Everett Co. has the rig completed for a second test on the U. G. Porter farm.

In the deep territory in Madison Township, Perry County, the Carter Oil Co. has moved rig timbers to a location on the J. McCullough farm. In Hopewell Township, Licking County, it is drilling a test on the A. C. Bell farm. In Hanover Township, the Edward H. Everett Co. is drilling on the Daniel Lehman farm and rigging up on the P. C. Phillips farm. In the same township, it is due in the Clinton sand at No. 8 on the Felix Claypool farm.

In Section 23, Hopewell Township, Licking County, the Pure Oil Co. has the rig completed for a test on the S. M. Gutridge farm. In Section 13, Bowling Green Township, the Pure Oil Co. is building the rig for a test on the O. Williams farm.

West Virginia

In West Union district, Doddridge County, West Virginia, the Clifton Oil & Gas Co. has drilled No. 13 on the Joseph Freeman farm into the Big Injun pay, estimated to be good for 40 bbls. a day. In Southwest district, R. L. Boyce & Co.'s test on the T. V. Gribble farm is a gasser in the Big Injun sand. In Grant district, Ritchie County, the Melon Oil Co. has a gasser in the Berea grit at a test on the Elizabeth Caine farm. In Murphy district, Pope Brothers drilled their old No. 8 on the J. H. Gamble farm down to the Berea grit and found nothing. They have filled up to the salt sand and will operate it from that level. In Courthouse district, Lewis County, the Hope Natural Gas Co.'s test on the F. G. Yoke farm is a gasser in the Big Injun sand.

On the waters of Big Searcy Creek, Scott district, Putnam County, 2 miles north of Charleston, the Dunbar Natural Gas Co. completed and shot in the salt sand a test on the Wirt Paul farm, good for 6 bbls. a day. This location is a considerable distance in advance of production. Since it got its production in the salt sand at a depth of about 1,600 feet, it will likely call out some new work in that locality.

In Union district, Pleasants County, the Monongahela Oil Co. completed in the Big Injun sand No. 13 on the Dora E. Wagner farm not good for more than 2 bbls. a day. In Williams district, Wood County, in the Henderson Pool, the Henderson Oil Co.'s No. 6 on the Drain heirs' farm is through the first Cow Run sand and good for 5 bbls. a day. On Laurel Run, Murphy district, Ritchie County, E. E. Pope has the rig completed for a test on the E. B. Donnelly farm. On Ministy Run, Paw-Paw district, Marion County, the Owens Bottle & Machine Co. is drilling a test on the F. Toothman farm.

On Brushy Fork of Sandy Creek, Reedy district, Roane County, the Heck Oil Co. has drilled its No. 4 on the C. J. Brown farm through the Brea grit and good for 7 bbls. a day. At the head waters of Georges Run, McElroy district, Tyler County, the Colonial Oil Co. drilled a test on the Caleb Henderson farm through the Maxon sand and dry. It will be drilled to the Big Injun sand and if nothing is found in that formation on to the Gordon sand. The location is 1,800 feet east of Sutton Brothers' test on the B. J. Ash farm and 1,000 feet south of the Hope Construction Co.'s test on the Hannah Merritt farm. In Spencer district, Roane County, G. L. Cabot is building a rig on the W. T. Arnett farm. In Reedy district, the Heck Oil Co. is building a rig on the B. F. Warren farm. In West Union district, Doddridge County, the Carter Oil Co. started to drill on the I. M. Smith farm.

Shot and Production Increased

On Nutter's Fork, West Union district, Doddridge County, the Clifton Oil & Gas Co. Nos. 4 and 5 on the Flora Freeman farm were given 15-quart shots and increased their production from 40 to 170 and from 15 to 40 bbls., respectively. In Union district, Ritchie County, the Hope Natural Gas Co. completed in the Big Injun sand a second test on the Kyler

(Continued on Page 98)

Oklahoma Field Operations

By J. L. Dwyer

Riverland Pool result of exhaustive study of conditions. Cromwell Pool extended northwest by Gypsy's well, which is spraying oil. Carter and Tidal get good well at Cromwell. Papoose Pool slowing up. Humble gets good well in Fox Pool. Marland well in Thomas Pool holding up good production.

It looks as if the Riverland Pool in Tulsa County is properly christened and that the Riverland Oil Co., after whom the pool was named, are about to be richly rewarded for their close study of subsurface conditions in this locality. After the most exhaustive study of old well logs, the Riverland drilled the discovery well of the pool in the NE cor. of Section 34-19-11. The well is about 7 weeks old, had an initial production of better than 800 bbls. a day and is now producing 630 bbls.

The Riverland Pool is producing 1,100 bbls. from 4 wells and out of this the Riverland Oil Co. has 980 bbls. from 3 wells. The northeast offset to the discovery well drilled by Baker & Lynch, in the SW cor. Section 26, started off very well, but is now swabbing 130 bbls. daily and showing a little water. The Riverland Oil Co.'s No. 1, SW cor. Section 35, is a light well pumping 30 bbls., but the Riverland's No. 2, CNL NE NE, Section 34-19-11, is running 18 feet high on top of the lime, and this naturally makes the acreage to the west appear to be the most promising. The Riverland Co. is admirably protected in the matter of acreage, and holds 400 acres in the territory. The probable west limits of the pool are a matter of speculation as to the west there is no control which may be employed in determining the structure. Owing to the poor showing of the Riverland well in the SW cor. of Section 35, and the flivvering of the Baker & Lynch well, if a pool of any appreciable size is uncovered, it must run over the Riverland leases.

At Cromwell an important find is in the new well of the Gypsy Oil Co.'s No. 1 Williams, SE cor. NE NW, Section 5-10-8. This well, started some time last winter, experienced considerable difficulty in completion, but the sand was found at 3,455 feet, and 2,000,000 feet of gas at 3,460 feet. At 3,461 feet the first oil was struck, and the well is spraying 4 bbls. per hour. It extends the producing limits of the pool about five-eighths of a mile to the northwest. The Gypsy Oil Co. made the deal for the acreage upon which the new well is located after the Laurel Oil Co. drilled in their light well in Section 4-10-8 last summer. At the time the acreage did not look very promising, but later developments brought the trend of the pool to the north, which is now the spot of interest.

Good Well at Cromwell

In the south end of the Cromwell Pool, the Carter Oil Co.-Tidal Oil Co. completed the best well in some time, No. 1, SW cor. NW, Section 14-10-8. Sand was found at 3,552-85 feet, and the well put out 1,117 bbls. the first 24 hours. It may cause some activity in the south end, as the other wells in this part of the field are mostly in the 200-bbl. class. The White Eagle Oil Co. is drilling a well offsetting the southeast corner of the Carter-Tidal well, and the completion of the White Eagle well will tell the tale of this section. The Nowata Oil Co. completed a well in the SW cor. NW NE, Section 3-10-8, where sand was found at 3,396-3,430 feet, and the well made 15 bbls. per hour. In Section 3-10-8, the Carter Oil Co.'s No. 14, SW cor. NE NW, made 35 bbls. per hour from sand 3,345-86 feet.

The Papoose Pool seems to be slowing up, and offers very little news for last week's activity. There is a rumor that the Carter Oil Co. has purchased from the Sands Petroleum Co. a half interest in the west half SE, Section 1-9-9. The principal completions in this section have been gas wells.

The Holdenville Pool, recently opened up by the Gypsy Oil Co.'s No. 1 Proctor, received a blow to its limits by the failure of the Prairie Oil & Gas Co.'s well, NE cor. SE, Section 34-8-8, which had a hole full of water at 3,292 feet. It went through the sand at this depth and is now shut down at 3,300 feet. To the south, but a good distance away, the Independent Oil & Gas Co. has a failure in the SW cor. NE, Section 11-7-8, at 3,430 feet. The discovery well of the Gypsy is holding up at 1,055 bbls. daily. There are eight tests under way around it.

South of the Papoose Pool, the new well of Ramsey and others is swabbing 175 bbls. from sand at 3,428-37 feet. It is located in the NW cor. SW SE, Section 23-9-9. Other wells announced close by are the north offset by the Empire Gas & Fuel Co., the west offset by the Gypsy Oil Co.; Ramsey's No. 2, NE cor. SW SW, Section 23; Ramsey's No. 3, SW cor. SW SW, Section 23, and Foster Investment Co.'s No. 1, NW cor. NW, Section 26-9-9.

Near Wetumka, another failure has been drilled by E. P. Hawkins, No. 1 Dindy, NE cor. NE NW, Section 23-9-10, where a hole full of water was struck at 3,164-88 feet. It is dry and abandoned.

Sand Reached High

North of the Papoose Pool, the Kingwood Oil Co. is on top of the sand with its well, SW cor. NE SE, Section 16-10-9. The top of the sand was struck 40 feet high, and the well is being watched with great interest. There have been several good gas wells drilled in this neighborhood by the Mid-Continent Petroleum Co. and by the Fuhrman Petroleum Co., and the structure has been checked by many geologists.

In the Fox Pool in southern Oklahoma, the Humble Oil Co. has drilled in a well having a better production than the other wells in the pool. It is No. 3, SW cor. NE NE, Section 22-2s-3w, and made 900 bbls. daily from sand at 2,549-74 feet.

In northern Oklahoma, the Sinclair Oil & Gas Co.s' No. 25 Belveal, which opened up the new sand at Garber, is producing 2,000 bbls. daily. The 38 wells announced around this find are drilling and some of them should be in during July.

In the Thomas Pool, the Marland Oil Co.'s No. 2 Thomas is producing 1,510 bbls. daily. It had initial production of 78 bbls. per hour. There have been six new wells as a result of the Marland find. It is located in SE cor. SW SW, Section 15-25-2w.

In the Braman Pool, the Comar Oil Co.'s No. 1, SW cor. NE NW, Section 28-29-1w, is swabbing 130 bbls. from sand at 1,968-71 feet. It will be drilled deeper.

At Tonkawa, the Amerada Petroleum Corp.'s No. 40, NE cor. NW NE, Section 34-25-1w, is drilling in the siliceous lime topped at 4,624 feet. The well has 500 feet of water in it, and is now drilling at 4,640 feet.

Louis Freedman and others' well, SE cor. NE, Section 28-25-1w, is shut down in white lime at 4,291 feet with no increase from last week's report. It is still swabbing about 125 bbls. daily.

The Bement well in Pawnee County, which caused a stir three weeks ago, was deepened to a total of 2,791 feet with no apparent benefit. Top of the sand was at 2,766 feet, and the well had previously been drilled to 2,786 feet. It will be put back on the pump.

Garber Field

The Sinclair Oil & Gas Co.'s No. 13, NW cor. NE NW, Section 18-22-3w, is rigging up to drill deeper. Old total depth is 2,073 feet. The Sinclair Oil & Gas Co. has a rig on the ground for No. 9, C SW SE, Section 18-22-3w. The Roxana Petroleum Corp. is building a rig for No. 2-W, SE cor. SW SW, Section 18-22-3w, and for No. 3-W, NW cor. SW SW Section 18-22-3w.

The Sinclair Oil & Gas Co.'s No. 20 Kisner, NW cor. NW Section 19-22-3w, is drilling at 885 feet; has a rig on the ground for No. 21 Kisner, CNL NW NW Section 19-22-3w; is spudding No. 19 Kisner, SE cor. NW NE Section 19-22-3w, and has completed No. 18 Campbell, C N half SE NW Section 30-22-3w. Oil was 1,833-42 feet and the well is good for 120 bbls. naturally. Company has a rig on the ground for No. 12 Campbell, SW cor. NW NW Section 30-22-3w.

The Imo Oil & Gas Co. has completed No. 2, NW cor. NE SW Section 31-22-3w. Oil was 2,202-16 feet. The well was shot with 10 quarts and is good for 15 bbls. The Marland Oil Co. and Mid-Continent Petroleum Co. are building the rig for No. 14, NE cor. SE SE Section 13-22-4w, an old well to be drilled deeper. Old total depth is 1,895 feet. The Marland-Mid-Continent companies are building rigs for No. 18, SE cor. SE Section 13-22-4w, old total depth is 2,220 feet, and for No. 25, CNL NE SE, Section 13-22-4w; have a rig on the ground for No. 42, SW cor. SE SE Section 13-22-4w; are building the rig for No. 43, SE cor. SW SE, Section 13-22-4w; have a rig on the ground for No. 44, SW cor. SE Section 13-22-4w; building the rig for No. 45, CEL SE SE Section 13-22-4w, and for No. 46, CNL NE SE Section 13-22-4w, and have a rig on the ground for No. 47, NW cor. SE Section 13-22-4w.

The Sinclair Oil & Gas Co. is drilling at 600 feet in No. 25, CSL SE SE SW Section 13-22-4w; has a rig on the ground for No. 26, NE cor. SW Section 13-22-4w; for No. 19, CEL SE NE Section 13-22-4w, and for No. 20, SW cor. NE Section 13-22-4w.

The Roxana Petroleum Corp. is building the rig for No. 1-A, SE cor. NW Section 13-22-4w. The Carter Oil Co. is building the rig for No. 33, CSL SE SE NW Section 24-22-4w. The Champlin Refining Co. has a rig on the ground for No. 34, NE cor. SW Section 24-22-4w. The Healdton Oil & Gas Co. is drilling at 700 feet in No. 29, NE cor. NW NE Section 24-22-4w, and at 300 feet in No. 30, SE cor. NW NE Section 24-22-4w.

The Sinclair Oil & Gas Co. has completed No. 16, NE cor. SW NE Section 24-22-4w. Oil was 2,425-29 feet and the well is pumping 55 bbls. The company is drilling at 240 feet in No. 26, NW cor. NE NE Section 24-22-4w. The Rabbits Foot Oil Co. has spudded in No. 10, SE cor. NE NW Section 36-22-4w.

Burbank Field

The Phillips Petroleum Co. has completed No. 2, CSL SW SW NE, Section 11-27-5. Sand was at 3,009-69 feet; the well was shot with 150 quarts and is good for 150 bbls. The Prairie Oil & Gas Co. is rigging up No. 11, CSL SW SE SE, Section 12-27-5. The Carter Oil Co. is building rigs for No. 14, CSL SW NE NE, Section 13-27-5, No. 15, CNL NW NE NE Section 13-27-5, No. 16 NE cor. NE Section 13-27-5, and has completed No. 15, SW cor. NE NW Section 13-27-5. Sand was at 2,966-3,018 feet; total depth 3,024 feet. The well was shot with 120 quarts and is making 5 bbls. on the pump.

The Phillips Petroleum Co. has completed No. 12, CEL SE NE NE Section 18-27-6. Sand was 2,941-70 feet; total depth 2,976 feet. The well is making 55 bbls. after a shot of 70 quarts. The company's No. 15, CNL NW NE NE Section 18-27-6, had a show of oil and gas from 2,870-72 feet, sand at 2,925-62 feet; total depth 2,966 feet. It is standing with 600 feet of oil in the hole.

The Texas Co. has spudded No. 15, NW cor. NW, Section 18-27-6, and No. 16, CNL NE NW NW, Section 18-27-6.

George S. Bole is building the rig for No. 1, SW cor. NW, Section 27-28-5.

Osage County

L. C. Hivick is moving in a machine for No. 1, SW cor. NW, Section 33-29-9. The Wiser Oil Co. has a machine in for No. 8, SW cor. NE NW, Section 27-29-11. The Sah-Shah-She Oil Co. is running 8-inch casing at 820 feet in No. 6, CSL SW SE, Section 27-29-11.

Duffield & Howard have completed a shallow well, No. 4, SE cor. SE, Section 28-28-11. Sand was 484-99 feet and the well is good for 2 bbls. daily. They are moving in a machine for No. 5, SE cor. NW SE, Section 28-28-11. The Texas Co. is rigging up for No. 1, SE cor. SW, Section 29-28-12.

The Skelly Oil Co. and others have completed No. 17 C W half SW, Section 34-22-12. Bartlesville sand was topped at 1,215 feet, pay 1,230-66 feet. The well was shot with 150 quarts and is making 10 bbls. The Skelly Oil Co. and others are moving in a machine for No. 3, CWL SW, Section 11-21-9. Breene and others are spudding No. 10, CSL SW NW, Section 5-21-11. The Chocobeen Oil Co. is spudding No. 1, SW cor. SE, Section 29-21-11.

Jim Glenn's No. 1, SE cor. NW, Section 9-21-12, is dry and abandoned at 1,588 feet. Duffield & Howard are drilling at 400 feet in No. 4, NW cor. SW NE, Section 15-21-12. Duffield-Howard-Berlin's No. 8, CWL NW NW, Section 15-21-12, is dry and abandoned at 1,325 feet. The Fidelity Oil Co. is drilling at 1,600 feet in No. 9, CWL SW NE, Section 16-21-12. The Selby Oil & Gas Co. is drilling at 1,612 feet in No. 9, CEL NW, Section 16-21-12. The Sterling Oil & Gas Co.'s No. 4, a twin well, CEL SE SE SE, Section 16-21-12, is drilling at 1,445 feet.

Kay County

The Anolu Oil Co. has a rig on the ground for No. 1, SE cor. SE, Section 7-27-1w. The Ostot Development Co. is drilling at 330 feet in No. 1 Balky, SW cor. NE, Section 7-27-1w; is fishing for a bailer at 920 feet in No .1, SW cor. SW, Section 8-27-1w. Harris & Haun have a rig on the ground for No. 1, C SE NE, Section 8-27-1w.

The Prairie Oil & Gas Co. is spudding No. 3, SW cor. NW, Section 10-27-1w. Harris & Haun are drilling at 600 feet in No. 1-A, CSL NE SE SE, Section 2-26-1w. The Empire Gas & Fuel Co. has a rig on the ground for No. 1, SE cor. SW NW, Section 1-26-2w.

The Marland Oil Co. has completed No. 3 Hill, SW cor. SE NE, Section 1-26-2w. Sand was at 2,548-51 feet, and the well is good for 511 bbls. The company is rigging up for No. 3, NE cor. SW, Section 1-26-2w; and has a rig up for No. 4, SE cor. NE SW, Section 1-26-2w. The Prairie Oil & Gas Co. has completed No. 4 Vanatta, SE cor. SE,

Section 1-26-2w; drilling at 400 feet, No. 6 Vanatta, NE cor. SW SE, Section 1-26-2w; and has completed No. 5-B Vanatta, NE cor. SE, Section 1-26-2w. Sand was 2,543-46 feet and the well is good for 120 bbls. naturally. The company's No. 6-B Vanatta, SE cor. NW SE Section 1-26-2w, is drilling at 380 feet.

The Marland Oil Co.'s No. 4 North SE cor. NW NE, Section 12-26-2w, is completed for 181 bbls. naturally from sand at 2,542-45 feet. Its No. 6 North, NE cor. NE, Section 12-26-2w, is making 80 bbls. on the swab from sand at 2,536-40 feet. It has a rig on the ground for No. 5, NW cor. NE SW, Section 1-26-2w.

The Carter Oil Co.'s No. 1 Wolfe, NW cor. NE, Section 10-25-2w, is dry and abandoned at 2,445 feet.

The Marland Oil Co. is moving in a machine for No. 1, SE cor. SW, Section 33-27-1.

Papoose Pool

The Texas Co. is drilling at 1,200 feet in No. 1 Tecumseh, NE cor. SW SE, Section 16-10-9. The Carter Oil Co. has completed No. 1 Johnson, NW cor. SW SE, Section 33-10-9. Sand was 3,339-51 feet. first oil at 3,343 feet. The well made 324 bbls. naturally. It has completed No. 7 Johnson, NE cor. SE SE, Section 33-10-9. Sand was 3,291-3.309 feet, break 3.309-11 feet, sand 3.311-33 feet. The well is good for 250 bbls. naturally. Its No. 8 Johnson, NW cor. SE SE, Section 33-10-9, had sand at 3,305-47 feet, and is good for 540 bbls. naturally.

The Indian Territory Illuminating Oil Co. has completed No. 1-A Williams, SW cor. SE SE, Section 34-10-9. Sand was 3.296-3.329 feet, first oil at 3.315 feet. The well is being cleaned out after a 6-quart shot. It had an initial production of 300 bbls. The Prairie Oil & Gas Co.'s No. 3-A Vincent, SE cor. SW SW, Section 34-10-9, had sand at 3,266-95 feet, break 3,278-85 feet, and made 295 bbls. the first 24 hours. C. L. McMahon and others' No. 2 Duncan, SE cor. SW NW, Section 35-10-9, is dry and abandoned at 2,485 feet. The Phillips Petroleum Co.'s No. 1 Bruner, SW cor. SE NE, Section 34-10-9, is dry and abandoned at 2,920 feet.

The Independent Oil & Gas Co.'s No. 3 Bruner, NE cor. NW NW, Section 1-9-9, had sand at 3,331-82 feet, with 10,000,000 feet of gas and a show of oil at 3,332 feet. It is drilling in sand at 3,382 feet. Its No. 1 Anderson, NW cor. SW SW, Section 1-9-9, is drilling at 1,180 feet. The Minnehoma Oil Co.'s No. 1 Cain, SW cor. NW NE, Section 1-9-9, had sand at 3,324-77 feet, with 38,000,000 feet of gas and no oil.

The Skelly Oil Co. has completed No. 2 Carolina, NE cor. NW SE, Section 2-9-9. Top of sand 3,339 feet, first gas 3,340 feet, first oil 3,342 feet, total depth 3,354 feet. The well had 200 bbls. initial production. The Independent Oil & Gas Co.'s No. 3 Carolina, SE cor. NE SE, Section 2-9-9, is drilling at 885 feet.

T. B. Slick's No. 12 Bruner, SE cor. NW, Section 2-9-9, had top of sand at 3,333 feet, pay at 3,333-34 feet, slate at 3,334-47 feet, pay and show water at 3,347-63 feet. It is being cleaned out after a 10-quart shot which resulted in 60 bbls. production. T. B. Slick and others' No. 1-A Ryan, NE cor. NW, Section 2-9-9, had top of sand at 3,325 feet, first oil at 3,335 feet, total depth 3,345 feet. It is being cleaned out after a shot of 3 quarts which produced 30 bbls.

T. B. Slick's No. 2-A McKay, NE cor. NW, SE, Section 3-9-9, made 600 bbls. from sand at 3.303-23 feet. Kingwood Oil Co.'s No. 5 Davis, NE cor. NW SW Section 3-9-9, is making 102 bbls. from sand at 3,276-95 feet.

The Phillips Petroleum Co.'s No. 4 Arber, NW cor. SE SE, Section 3-9-9, is spudded. T. B. Slick is spudded in No. 9 Grayson, NE cor. SW SE, Section 3-9-9. Stover & Dempsey's No. 1 Bowlegs, south of the Papoose Pool, NW cor SW SW, Section 23-9-9, had sand at 3,428 feet, first oil and gas at 3,430 feet, drilling at 3,431 feet. It flows 20 to 25 bbls. every six hours.

Near Wetumka

The Sands Petroleum Co. is building the rig for No. 1, SE cor. SE SW, Section 21-9-10.

The Producers & Refiners has the rig on the ground for No. 1 Canard, NW cor. NE, Section 28-9-10.

Logan County

Near Guthrie, the Blackford Oil Co. is underreaming 15-inch casing at 650 feet in No. 1 C SE Section 28-16-1w.

Davenport District

The Magnolia Petroleum Co.'s No. 1 Booth, SE cor. SW, Section 34-15-5, made 350 bbls. naturally from sand at 3,395-3,462 feet, total depth 3,465 feet. It is now making 256 bbls. Its No. 1 Ely, NW cor. SW NW, Section 2-14-5, is completed for 10,000,000 feet of gas from 3,346-85 feet; No. 2 Ely, SW cor. NW SW, Section 2-14-5, is drilling at 1,110 feet; No. 3 Ely, SE cor. NW SW Section 2-14-5, at 137 feet.

The Texas Co.'s No. 1 Olson, NW cor. SW SW, Section 2-14-5, averaged 350 bbls. daily last week. Sand was at 3,310-65 feet, oil at 3,329 feet. Its No. 2 Olson, NE cor. SW SW, Section 2-14-5, is drilling at 952 feet. The Magnolia Petroleum Co. has a rig for No. 4 Lain, SE cor. SW NE, Section 3-14-5.

The Prairie Oil & Gas Co.'s No. 3 Stout, SE cor. NE NW, Section 3-14-5, made 900 bbls. naturally from sand at 3,398-3,456 feet, and is now making 785 bbls. The Southwestern Petroleum Co. and Selby Oil Co. are drilling at 1,340 feet in No. 2 Bagwell, NE cor. SE SE Section 3-14-5; and at 80 feet in No. 3 Bagwell, SE cor. NE SE Section 3-14-5.

They have a rig on the ground for No. 4 Bagwell NE cor. NW SE Section 3-14-5 and for No. 5 Bagwell NE cor. SE Section 3-14-5.

The Magnolia Petroleum Co.'s No. 1 Kalka NE cor. SE SE Section 7-14-5 had sand 3,530-49 feet, oil at 3,538 feet. It swabbed 35 bbls. oil and 15 bbls. water, was plugged back 10 feet and then pumped 23 bbls. oil and 17 bbls. water.

The Union Petroleum Co.'s No. 7 Lot 14 (Key West) Section 12-14-6 is dry and abandoned at 3,840 feet.

Creek County

The Eastern Oil Co. is drilling by tools at 3,820 feet in No. 9 Roberts NW cor. SW SE Section 17-15-8. A hole full of oil was 3,792-3,820 feet. The Texas Co. is rigging up No. 2 Yarhola NE cor. SW SW Section 23-15-8. The Phillips Petroleum Co. is drilling at 620 feet in a No. 2, SE cor. SW SE Section 30-15-8.

J. W. Henry has completed No. 2 Davy SW cor. NW SE Section 2-14-8. Sand was 2,457-2,519 feet, oil at 2,485 geet. It was shot with 60 quarts and is good for 118 bbls. The Skelly Oil Co. is drilling at 315 feet in No. 6 McKan SE cor. NW SW Section 12-14-8.

J. B. Grieves' No. 4 Lowe, CSL SW NE NW Section 13-19-8, is spudded. The Burnett Oil Co.'s No. 1 Jack, SE cor. NW Section 1-18-7 was shot with 60 quarts from 2,590-2,616 feet. It is standing with 1,500 feet of oil in the hole.

The Texas Co. has spudded No. 30 Dale SE cor. NW Section 6-18-7. The Deep Rock Oil & Gas Co. has rig on the ground for No. 3 SW cor. NW NE Section 22-19-9. The Devonian Oil Co. has a rig up for No. 1-A NE cor. SE SE Section 7-18-9. The Texas Co. is rigging up No. 3 NE cor NW SW Section 8-18-9. H. V. Bartlett is spudding No. 5 King NW cor. NE SW Section 17-18-9.

The Texas Co. is drilling at 420 feet in No. 1 Bruner SW cor. SW SE Section 12-14-8. C. G. Tibbens is fishing for tools at 382 feet in No. 3 Bearhead SW cor. NW NW Section 13-14-8. The Prairie Oil & Gas Co. is drilling at 460 feet in No. 3 Bearhead, SE cor. NE NE Section 14-14-8. The Texas Co. has a rig up for No. 6 Lowe SE cor. SW NE Section 27-14-8.

C. G. Tibbins is cleaning out after setting the 10-inch casing at 1,305 feet in No. 11 NW cor. SE Section 30-15-9; is spudding No. 13 NW cor. SW NE Section 30-15-9; has a rig in for No. 14 CNL SW Section 30-15-9.

The Cumberland Petroleum Co. has completed No. 2 Harry NW cor. NW Section 27-15-10. Oil was 2,715-41 feet total depth 2,765 feet. The well was shot with 80 quarts and is good for [illegible] bbls. The Texas Co. is cleaning out No. 3 Harry SW cor. NE NW Section 27-15-10. Oil was 2,635-36 feet, total depth 2,680 feet. The well is showing for 5 bbls. after a shot of 40 quarts.

C. P. Davis has completed No. 1-A McIntosh, NE cor. SW SW, Section 25-15-10 for 750,000 feet of gas from 460-465 feet. The Shaffer Oil & Refining Co. has completed a 6,000,000-foot shallow gas well in No. 1 Long, C NE SE Section 6-14-9. from 975-992 feet. The Phillips Petroleum Co. has a rig in for No. 3 Penn SW SE NW Section 24-14-[illegible]

Evans and others have a rig in for No. 1 Yarhola NE cor. SE Section 14-14-10. The Darby Petroleum Co.'s No. 1 McHenry, SW cor. NE, Section 15-14-10, swabbed 130 bbls. the first 2 days from sand 3,290-92 feet. It will be drilled deeper. Donnelly and others have spudded No. 3 Johnson, SW cor. SE SW, Section 17-14-10; and are drilling at 800 feet in No. 2 Thompson, NW cor. NE NE, Section 19-14-10.

H. F. Wilcox Oil Co. has completed No. 5 Scott, NW cor. SW NE, Section 20-14-10. The well made 180 bbls. natural from sand 3,336-68 feet. It was shot twice with 10 quarts each time and is making 150 bbls. of oil and showing water. The Wilcox Co. is rigging up No. 10 Scott, C S half SE NE, Section 20-14-10.

The Texas Co. has a rig on the ground for No. 1 SW cor. NE NW Section 22-15-8.

Riverland Pool Tulsa County

The well of Baker & Lynch which is an offset to the discovery well drilled by the Riverland Oil Co., was completed in sand 2,282-86 feet. It made 80 bbls. the first hour and then settled to 30 bbls. an hour. It is making about 650 bbls. daily. The Riverland Oil Co. has completed No. 1 SE cor. SE Section 27-19-11. Oil was 2,220-63 feet, and the well is good for 500 bbls. The Riverland Oil Co.'s No. 1 NW cor. NW Section 35-19-11 is swabbing 50 bbls. from sand 2,260-64 feet.

Okmulgee District

West of Beggs, Webster and others are drilling at 600 feet in No. 4 CWL NW NE SW Section 3-15-11. Clover and others have completed No. 3 NW cor. SW NW Section 3-15-11. Sand was 1,985-2,040 feet. the well was shot with 100 quarts and is good for 50 bbls. Jackson & Wise are rigging up a machine for No. 4 SW cor. SE SW Section 3-15-11. The Sheridan Oil Co. is drilling at 700 feet in No. 1 SE cor. NE Section 4-15-11. The Shaffer Oil & Refining Co. has completed No. 4 NE cor. SW SE Section 17-15-11. Sand was 3,019-50 feet, the well was shot with 40 quarts and is good for 265 bbls. The Eastern Oil Co. has completed No. 1 SE cor. NW NE, Section 32-15-11. Sand was 2,512-19 feet, total depth 2,596 feet. The well is good for 12 bbls. after a shot of 20 quarts.

The Meridian Petroleum Co.'s No. 1 NE cor. SE NW Section 1-15-12 had sand 2,048-58 feet and is good for 40 bbls. on the pump. The Enfisco Oil Co. is drilling at 250 feet in No. 2 NW cor. NE Section 2-15-12. Denton & Marshall have a rig on the ground for No. 1 NE cor. SE Section 15-15-12. Hawn and others' No. 1 NE cor. NW SW Section 24-15-12 is drilling at 2,672 feet. It is an old well drilled deeper. Old total depth is 2,437 feet.

Sam Bright has spudded No. 1 Lee, S half SW SW, Section 26-15-12. The Clarion Oil Co. No. 1 SE cor. SW Section 16-14-11 had a show of oil in sand 2-966-71 feet.

Near Bald Hill, the Ozark Oil Co. is drilling at 490 feet in No. 1 SW cor NW Section 2-15-14. F. D. Misner is shut down in No. 5 SW cor. NW Section 11-15-14. Sand was 1,477-[illegible] feet and the well had a 35-bbl. show. J. A. Swindler's No. 2 SW cor. NE NE Section 20-15-14 is being cleaned out to drill deeper. Old total depth was 1,[illegible] feet. The Papoose Oil Co. and Swindler's No. 22 CWL SW SE Section 5-15-14 has a 75-bbl. show in sand 2,[illegible] 72 feet. H. E. Williams has a rig on the ground for No. 3 SW cor. NE NE Section 21-15-14.

(Continued on Page 106)

Kansas Oil Field News

By J. L. Dwyer

To quote the immortal Shakespeare, the Waite Phillips Co.-Marland Oil Co.-Independent Oil & Gas Co. "have the world by the tail with a downhill pull" in their Rainbow Bend property.

Rainbow, the greatest pool to be drilled in since the days of the Towanda Pool in the Eldorado Field, is steadily increasing and the production is around the 20,000-bbl. mark. Owing to its productivity the daily production of the State passed 100,000 bbls. last week. It presents the ideal conditions from an operating standpoint, as these three companies control the field with no danger of drainage by offset wells, and the offset requirements themselves limited to the terms of the leases. Whatever Rainbow holds is absolutely the property of the Waite Phillips Co.-Marland Oil Co.-Independent Oil & Gas Co.

Their latest completion in the pool is No. 2 Dora Johnson, NE cor. SE, Section 20-33-3, which had an initial production of 810 bbls. from sand at 3,207-29 feet. It is a half mile north of No. 3 Dora Johnson, a 3,000-bbl. well, and a quarter mile north of No. 2 Snyder, which had the largest initial production of any well in the pool, 3,480 bbls. Immediately to the north of the new well, the initial production of the wells was in the 1,800-bbl. class, and to the west the completions were smaller than No. 2 Dora Johnson, and, considering these facts, it is possible that the subsurface structure may be raising to the east and wells to the east may have still greater initial production.

In spite of the victory of the oil companies in the recently decided accretion suit, another suit of the same nature was filed last week by landowners.

Greenwood County did little to add to the production figures, but the report shows the usual number of completions of average size.

Coffey County

Chambers & Spence have a machine in for No. 2 CSL NE NW Section 29-23-15. The Hougland Oil Co. is drilling at 700 feet in No. 1 SW cor. NW NE Section 29-23-15 and has a machine in for No. 1 Smith SW cor. NE Section 30-23-15. John Rogers' No. 1 Weide, C NW Section 32-23-15, is drilling at 1,100 feet.

Woodson County

Finley and others' No. 1 Eades NW cor. SW SW Section 25-24-15, is drilling at 900 feet. The Manhattan Oil Co. has a machine in for No. 13 CSL SW SW Section 14-23-13. Shaffer & Howell have completed No. 12 C NW Section 15-23-13. Sand was 1554-631 feet, the well was shot with 130 quarts and is making 200 bbls. Lassen & Davis' No. 1 SW cor. SE NE Section 13-25-13, is drilling at 1,150 feet, and they have a machine in for No. 2 CSL SE SE Section 14-25-13. C. & G. Leasing Co. has a machine in for No. 5 C NE SW Section 31-25-13.

Sumner County

The Mid-Continent Petroleum Co. has a rig on the ground for No. 1 NW cor. NW SE Section 4-34-1w.

The Texas Co. is spudding No. 1 West, SW cor. SE SE Section 12-35-1e.

The Marland Oil Co. is building the rig for No. 1 NE cor. NW SE Section 27-34-2.

Marion County

Leeward Petroleum Co. is drilling at 200 feet in No. 1 SE cor. NE NW Section 23-19-4.

The Argus Oil Co.'s No. 5 NE cor. NW SW Section 5-21-4, is dry and abandoned at 2,610 feet.

The Watchorn Oil & Gas Co.'s No. 26 CEL NE SE Section 5-22-4, is dry

(Continued on Page 118)

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North Louisiana-Arkansas

By M. L. Vaughn

Total production from North Louisiana and Arkansas passes 500,000 bbls., Smackover heavy averaging 401,427 bbls. Decline of permits indicating lessening of activity in that territory. Oil lost by heavy rains flooding earthen storage. Urania Field still hopeful, despite disappointment.

SHREVEPORT, La., May 18.—A substantial increase in production is again noted in the Smackover Field, the production of heavy oil from that district during the past week averaging 401,427 bbls. a day, leaving only 42,250 bbls. a day from other Arkansas districts, and showing an increase of 41,792 bbls. a day in Arkansas production. Louisiana production showed a decline of 445 bbls. a day, the daily average from the North Louisiana Field amounting to 51,930 bbls. Total production from North Louisiana and Arkansas has now passed the half million mark, the daily average amounting to 500,720 bbls., distributed as follows:

Arkansas	
Smackover heavy	401,427
Smackover light	29,815
El Dorado	9,130
Nevada County	1,410
Stephens	1,895
Total	443,677

North Louisiana	
Bellevue	3,495
Caddo light	9,680
Caddo heavy	2,385
Cotton Valley	10,825
De Soto and Red River	4,240
Elm Grove	780
Haynesville	13,800
Homer	6,725
Total	51,930
Total both fields	500,720
Increase	46,515

Permits Show Decline

Permits issued last week for drilling in the Smackover Field showed a decline of 20 from that of the previous week and indicates a lessening of activity in that territory Of the 52 permits issued, a large majority were in the deep sand territory, including four permits for deeping old wells The best well was completed by the Lion Oil & Refining Co., No. 2 Hays, deepened 14 feet into the pay, came in at 2,360 feet flowing 10,000 bbls. After flowing for a few hours, however, the well went wild with a 30,000,000-foot gas flow and it is feared it will go to salt water.

Considerable oil has been lost in the Smackover Field during the past week as the result of heavy rains flooding earthen storage tanks. The Standard of Indiana is reported to have lost 20,000 bbls. when one of the earthen storage tanks on the Dashko lease, recently purchased by it, gave way after a heavy rain fall. During the recent storms, lightning struck an oil tank on the Standard Oil Refining Co.'s tank farm at Baton Rouge, causing the destruction of 35,000 bbls. of oil. The fire was brought under control by steam lines and a fire wall was thrown up to prevent spread of the flames.

Urania Field

The Urania Field in La Salle Parish received another black eye when the Rowe-Wallace well, offsetting the discovery well on the north, went into salt water at 1,544 feet and has been temporarily abandoned The discovery well, drilled by the Urania Petroleum Co. in Section 18-10-2e, has been junked and abandoned. Packer had been set with screen preparatory to making a final test when the water broke in and all hope of getting a commercial well was abandoned. Operators are by no means discouraged, however, as to the final outcome of this district, and a number of tests are in progress and more are in sight, which it is hoped will be more successful.

Union County, Arkansas

The details of development of the Smackover heavy oil area are told elsewhere in this edition by special correspondence from Ed Dorado, Ark., and only a few of the completions of the week in that field are included in this correspondence.

The Arkansas Fuel Oil Co.'s No. 5 Ferguson, Section 6-16-15, is blowing with gas at 2,396 feet, 2,000 bbls. of fluid, 80 per cent salt water; No. 7 La Grone, Section 1-16-17, is swabbing 22 bbls. at 2,254 feet; No. 1 Scott is pumping 350 bbls. at 2,296 feet, and No. 2 Scott, pumping 5 bbls. at 2,261 feet, same section.

Sam Cook completed No. 2 Murphy, Section 9-16-15, flowing 3,000 bbls. at 2,463 feet.

J. E. Crosbie's Lawton A-1, Section 10-16-15, was junked and abandoned at 2,350 feet.

Crusaders Oil Producing Co. completed No. 5 Lyell, Section 3-16-15, flowing 400 bbls. at 2,378 feet.

W. A. Dellmyer's No. 1 Ezell, Section 13-17-15, pumping 150 bbls. at 2,212 feet.

Doern and others abandoned No. 1 Bradley, Section 4-19-16, at 1,930 feet, 4 miles west of El Dorado South Field

Federal Petroleum Co. completed Flenniken J-5, Section 6-16-15, flowing 600 bbls. at 2,390 feet.

Field Operators Trust Co.'s No. 1 Kane, Section 12-16-16, pumping 20 bbls. at 2,022 feet.

Johnson Drilling Co. completed No. 1 Anderson, Section 1-16-17, pumping 100 bbls. at 2,269 feet.

Mathews and others have abandoned No. 1 Teele, Section 11-19-12, at 2,063 feet. This is a wildcat test 15 miles east of production El Dorado South Field.

Roxana Petroleum Corp. completed No. 2 Bilyew, Section 9-16-15, flowing 2,500 bbls. at 2,403 feet. No. 3 Bilyew, same section flowing 2,500 bbls. at 2,454 feet, and abandoned, No. A-2 Flenniken, Section 10-16-15, at 2,315 feet.

Ouachita County

Twenty completions during the week in Ouachita County included five wells in the light oil territory, one dry hole in the north end of the deep sand area, one failure in a deep test in Louann district and another failure in a shallow test and 12 completions in the deep sand having an aggregate initial production of 25,880 bbls.

Clark, H. E. completed No. 4 Smith, Section 26-15-17, pumping 30 bbls. at 2,385 feet.

Clark & Melat's No. 2 Murphy, Section 4-16-15, is flowing 2,000 bbls. at 2,354 feet.

Dashko and others completed No. 2 Joyce, Section 34-15-15, flowing 1,500 bbls. at 2,377 feet.

Giles and others completed No. 2 Neeley, Section 26-15-15, pumping 65 bbls. at 2,085 feet.

Gladys Belle Oil Co.'s No. 1 Neelev, Section 23-15-16, is pumping 60 bbls. at 2,068 feet.

Hickory Oil Co.'s No. 2 Fincher, Section 32-15-16, is pumping 35 bbls. at 2,267 feet.

D. N. Johnson pulled casing and abandoned No. 1 Fincher, Section 29-15-16, at 2,525 feet.

J. D. Reynolds completed No. 2 Berg, Section 27-15-17, pumping 30 bbls. at 2,392 feet.

Standard Oil Co. completed No. 13 M. W. Hardy, Section 5-16-15, flowing 400 bbls. at 2,369 feet and No. 15 Umsted, same section, flowing 1,080 bbls. at 2,387 feet.

Webster Parish

Ohio Oil Co. completed No. 26 Bodcau, Section 15-21-10, pumping 65 bbls. at 2,523 feet, and No. 29 Bodcau, Section 27-21-10, pumping 100 bbls. at 2,545 feet, also No. 2 Gray, Section 26-21-10, pumping 20 bbls. at 2,556 feet.

Woodley Petroleum Co. completed No 2 Gray, Section 26-21-10, pumping 250 bbls. at 2,571 feet.

Belchic & Laskey completed No. 1 Glass, Section 27-23-10, making 40,000,000 feet of dry gas at 2,649 feet.

Humble Oil & Refining Co. completed Bodcau B-18, Section 28-21-10, pumping 109 bbls. at 2,565 feet and No. 7 Gray, Section 26-21-10, pumping 52 bbls. at 2,527 feet.

Bossier Parish

The Best Oil Co. abandoned No. 2 Atkinson, Section 3-18-12, at 1,160 feet.

Bellevue Field

G. W. Wetherbee abandoned B. & W. Fee F-6, Section 23-19-11, at 372 feet.

Caddo Parish

Dixie Oil Co. completed W. B. & L. L. Noel B-1, Section 24-21-15, making 15,000,000 feet of gas at 3,650 feet.

Fortuna Oil Co. completed No. 10 Robertshaw, Section 23-21-15, making 30,000,000 feet of gas at 3,604 feet.

Gulf Refining Co. abandoned No. 60 Ferry Lake, Section 14-20-16, at 2,790 feet.

M. N. Hancock completed No. 1 Hampton, Section 15-21-15, pumping 5 bbls. at 1,722 feet.

Lewis Oil Corp. completed C. M. L. No. 6, Section 24-22-15, pumping 30 bbls. bbls. at 1,500 feet.

McGoldrick and others completed No. 6 Murray, Section 14-21-15, pumping 20 bbls. at 1,600 feet.

D. C. Richardson abandoned No. 1 McGuffin, Section 3-18-15, at 1,030 feet.

D. & D. Waterman Co. abandoned No. 2 Hunting Club, Section 8-17-16, at 1,909 feet.

LaSalle Parish

Zeigen and others completed No. 1 Urania, Section 19-10-2e, flowing 40 bbls., 95 per cent salt water, at 1,512 feet.

LaFayette County, Arkansas

Humble Oil & Refining Co. abandoned No. 1 Bodcau-Riggins, Section 21-15-22, at 1,420 feet.

Drilling Operations

Union County, Arkansas

A slight decrease in the number of drilling wells is more than offset by an increase in rigs and derricks and indications are the present activity in the deep sand territory will be continued at least through the current month. At the close of the week, there were 193 drilling wells, 26 rigs and 45 derricks, most of which are in the deep sand area of the Smackover Feld.

J. A. Alphin, drilling at 2,350 feet in No. 1 fee, Section 4-16-15; Amerada Petroleum Corp tested salt water at 2,365 feet in No. 1 Lyell, Section 3-16-15, and arranging to re-cement casing, drilling No. 5 and No. 6 and rigging up for No. 7, same section; Arkansas Fuel Oil Co. coring at 2,415 feet in No. 5 Alphin, Section 11-16-15, and at 2,005 feet in No. 1 Burton, Section 33-16-15, drilling No. 11 Cullens, Section 3-19-15, , at 1,565 feet, and derricks up for No. 6 and No. 7 Ferguson in Section 6-16-15.

Bailey & Trimble, rigging up to drill No. 4 Lawton, Section 10-16-15; Barnadall & Foster, drilling at 2,160 feet, No. 3 Murphy, Section 17-16-15; Broderick & Calvert, drilling in with cable tools, Murphy A-3, Section 8-16-15, and arranging to deepen Murphy A-4, same section; J. W. Clark, set 6-inch in No. 6 Cost, Section 17-16-15, 4½-inch in No. 1 Palmer, Section 9-16-15, and derrick up for No. 4, same section, and derrick up for No. 3 Smith, Section 16-16-15.

Clark & Melat, set 10-inch at 305 feet in No. B-3 Wells, Section 15-16-15; Coates & Sowell, arranging to core No. 1 Springer, Section 36-17-16; Crawford & Sebastian, set 10-inch at 360 feet in No. 3 Graves, Section 3-16-15, drilling at 2,200 feet in No. 7, same section, drilling at 2,350 feet in No. 6 James, Section 6-16-15, and at 2,000 feet in No. 7, same section. J. E. Crosbie has three wells drilling and one rigging up on the Lawton lease, Section 10-16-15, and the Crusader Oil Producing Co. has two on the Graves and one on the Lyell in Section 3-16-15.

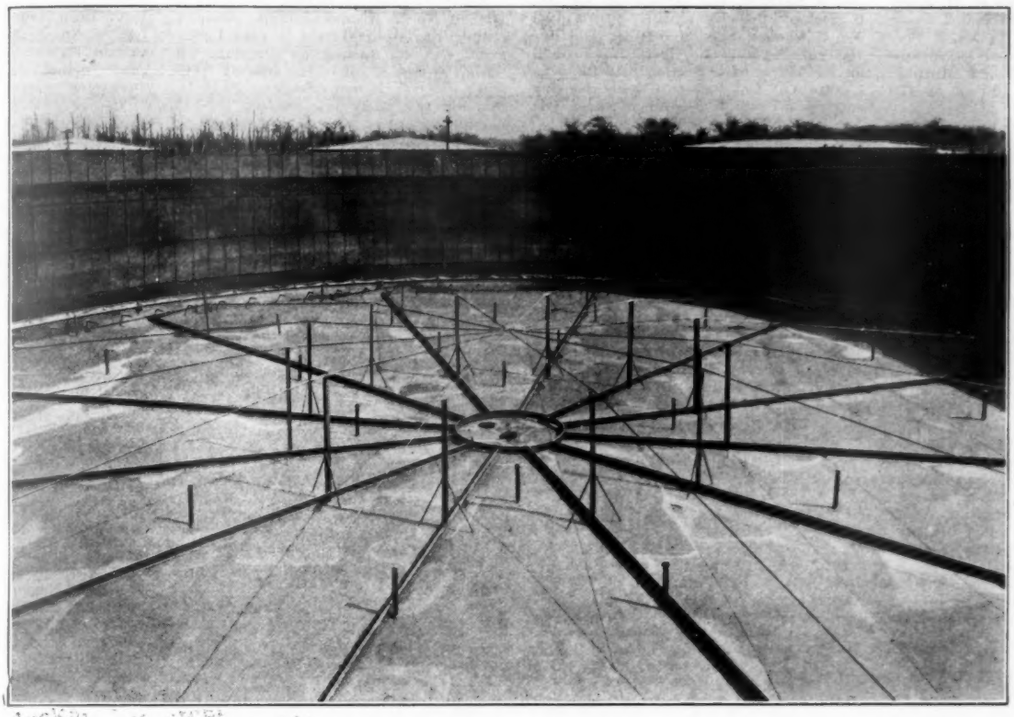
Eason and others have one well nearing completion and one drilling on the Palmer lease, Section 9-16-15, and drilling at 1,500 feet in No. 4 Murphy, Section 15-16-15. Federal Petroleum Co. drilling at 2,100 feet in No. 5 Ballard, Section 10-16-15, and rigging up to drill Nos. 6 and 7, same section; two wells nearing completion and one derrick on the Flenniken lease, Section 6-16-15; tested salt water at 2,425 feet in B-8 Lawton, Section 10-16-15, and arranging to plug back to 2,407 feet, and have four wells nearing completion on the Lawton lease in Section 10-16-15.

Grimes and others, drilling at 2,200 feet in No. 4 Van Hook, Section 7-18-14; Gulf Refining Co., 1,400 feet in No. 10 J. H. Alphin, Section 3-16-15; No. 11 Section 10-16-15, at 1,350 feet, and rigging to drill No. 14 and No. 15, same section; setting 3½-inch at 2,477 feet in No. 1, and derrick up for No. 9 J. A. Berry, Section 7-16-15; set 10-inch at 300 feet in No. 1 Beaver, Section 7-16-16, 10-inch at 587 feet in No. 5 M. L. Cook, Section 16-16-15; 10-inch at 100 feet in No. 1 Fagg, Section 7-16-16; drilling at 980 feet in No. 10 Flannigan, Section 5-16-15; set 10-inch at 600 feet in No. 5 Murphy, and derrick up for No. 6, Section 8-16-15; and nine wells nearing completion and two rigging up on the Hardy-Murphy lease in Sections 3, 4 and 5-16-15. No 10 T. C. Murphy, Section 9-16-15, drilling at 1,800 feet.

F. C. Henderson drilling at 2,430 feet No. 2 Smith, Section 18-16-15; Hickman and others set 6-inch at 2,380 feet in No. 1 Graves, Section 3-16-15, and at 2,343 feet in No. 11 Graves, same section; Higgins Oil & Fuel Co. coring at 2,275 feet in No. 1 McGraw, Section 6-16-15, and Hollyfield and others have the hole full of fluid in No. 10 Giller, Section 11-16-15, and arranging to blow with gas at 2,410 feet.

Houston Oil Co. drilling at 2,000 feet in Nos. 6 and 7 Miller, Section 3-16-15; Humble Oil & Refining Co. tested salt water at 2,347 feet in No. A-4 Flenniken, Section 3-16-15, arranging to re-cement casing; No. A-5 Flenniken, same section rigging up to drill, and No. B-6 Flenniken, Section 9-16-15 and arranging to start drilling. Humble Oil & Refining Co. drilling at 2,275 feet in No. 3-B Goodwin and rigging up to drilling No. 4, Section 2-16-15; rigging up to drill No B-1 Lawton, Section 7-16-15; drilling at 2,385 feet in No. 8 Pate, Section 10-16-15, and derrick up for No. 12 Umsted, Section 5-16-15.

Imperial Oil & Gas Producing Co. is re-building derrick for No. 3 Murphy, Section 9-16-15, the first having been lost in a blowout and crater at 2,402 feet, and drilling at 1,850 feet in No. 7 Murphy, same section. Johnson Drilling Co. has derrick up for No. 2 Anderson, Section 1-16-17; Ab Jones is milling through casing at 1,800 feet in No. 1



Floating Roofs the *Only* Means of Materially Reducing Evaporation

With the exception of the floating decks and spherical tanks, none of these does more than reduce the natural evaporation a comparatively small amount, nor do they prevent the breathing of the tank nor entrance of air upon pumping out.

From article in National Petroleum News, April 29, 1925, by B. B. Stroud, McKean County Refining Co., Bradford, Pa.

Typical Evaporation Savings Made by Wiggins Floating Roof

Duty of Tank	Barrels Handled per Day	Diameter of Tank	Months to pay Entire cost of Wiggins Roof
WORKING TANKS			
Gasoline Run Down*	1000	30′	4.3
Pipe Line Gathering*	2000	30′	5.9
Main Line Pipe Line*	10000	114′6″	7.2
Crude Working Tank at Refinery*	10000	96′6″	5.9
Temporary Gasoline Storage*	5000	50′	3.1
*Comparison is made with gastight steel roof.			
STANDING STORAGE			
Permanent Gasoline Storage (Compared with ClassI Roof)		114′6″	7.2
Permanent Gasoline Storage (Compared with Class II Roof)		114′6″	31.4
Permanent Crude Storage (Compared with Class I Roof)		114′6″	10.8
Permanent Crude Storage (Compared with Class II Roof)		114′6″	36.7

Class I Roof—Air-leaky tanks. Class II Roof—Steel-riveted and caulked tanks.

The Floating Roof stands out as the only device for practically eliminating evaporation. Blanketing the oil is the simple principle that enables the Wiggins Roof to do on oil storage tanks what no other type of equipment can accomplish.

You know that evaporation costs you a considerable loss every day. A 55,000-barrel tank holding gasoline in standing storage costs you $14,700 a year unless it is equipped with a Wiggins Roof.

If you are pumping Mid-Continent crude of 33°-36° Baume, through a 55 at the rate of 10,000 barrels per day, your annual loss is $12,600 with a gastight covered wooden roof.

Pays for Itself

The Wiggins Roof pays for itself in a few months and thereafter pays you a profit. In the two cases stated above the roofs would pay for themselves respectively in seven and eight months. A rundown tank roof pays for itself in four months.

Delay Costs You Money

Wire us now for prices on the diameters you need to supply your rundown tanks, pipe line tanks and wooden roof tanks. We will be glad to quote without placing you under any obligation.

CHICAGO BRIDGE & IRON WORKS

CHICAGO	NEW YORK	DALLAS	SAN FRANCISCO
2128 Old Colony Building	3147 Hudson Terminal	1641 Praetorian Building	1054 Rialto Building

445

The WIGGINS FLOATING ROOF

Keeps Oil In · Keeps Fire Out

Tatum, Section 7-16-15, and E. M. Jones set casing at 2,475 feet in No. 2 Cook, and drilling at 2,010 feet in No. 3, Section 16-16-15. Keen & Woolf have fishing jobs in No. 1 and No. 2 Murphy, Section 9-16-15, and set 10-inch at 470 feet in No. 3, same section.

Laurel Oil & Gas Co. drilling at 2,500 feet in No. 1 Houston, Section 12-16-16; Lion Oil & Refining Co. drilling at 850 feet in No. 8 Graves, Section 3-16-15; at 1,000 feet in No. 3 Hays, Section 4-16-15; coring at 2,440 feet in No. B-3 Lawton and derrick up for No. B-4 Section 10-16-15; derrick up for No. F-1 Murphy, Section 8-16-15; G-2, same section, drilling at 1,000 feet; H-1, Section 9-16-15 set casing at 2,410 feet; H.-2, rigging up to drill; No. 3 Hardy-Murphy, Section 9-16-15, drilling at 1,925 feet. Lyles and others are drilling at 2,035 feet in No. 9 fee, Section 3-16-15. Magnolia Petroleum Co. set 3½-inch casing at 2,382 feet in No. 2 Bradford, Section 8-16-15; trying to shut off salt water and setting tubing with packer to test at 2,638 feet in No. 3 Harris, Section 16-16-16; drilling No. 1 J. N. Murphy, Section 35-16-15, at 100 feet, and No. 1 Ola Scott, Section 12-16-17, at 1,750 feet. Marr & Wood, drilling at 2,075 feet in No. 2 Murphy, Section 17-16-15. The Magnolia Petroleum Co.'s Chandler well, Section 4-10-14, 5 miles east of production, in the South El Dorado Field, tested dry at 2,356 feet and drilling deeper at 2,445 feet.

Mazda Oil Co. set 10-inch at 480 feet in Lawton B-3, Section 10-16-15; McCorkle and others have the hole full of salt water in No. 1 Muphy, Section 8-16-15, and will set packer at 2,507 feet; R. J. Murray set 6-inch at 2,355 feet in No. 1 Hill, Section 5-16-15; Moco Oil Corp. set 10-inch at 517 feet in No. 2 Flenniken, Section 5-16-15, and Murdock and others rigging up to drill No. B-2 Bilyew, Section 8-16-15. O. G. Murphy is drilling No. 5 Murphy, Section 9-16-15, at 1,850 feet, and rigging up to drill No. 6, same section.

Natural Gas & Petroleum Co. is rigging up to drill No. 3 Ballard, Section 15-16-15, and No. 2 Harrell, Section 17-16-15; Lawton C-2, Section 10-16-15, is coring at 2,425 feet; Murphy A-3 and B-3, Section 17-16-15, is nearing completion, and Oran A-2, Section 5-16-15, is drilling at 1,525 feet. Oran B-2, same section, tested salt water and is setting casing at 2,360 feet. Ohio Oil Co. has two rigs running and one derrick up on the S. Murphy lease, Section 9-16-15, and two on the Pate lease, Section 10-16-15.

Parrish and others drilling at 1,500 feet in No. 3 Ferguson, Section 6-16-15; Penguin Oil Co. drilling at 900 feet in No. 3 Murphy, Section 8-16-15, and set 6-inch at 2,512 feet in No. 3 Sanford, Section 6-16-15; Phillips Petroleum Co. set 10-inch at 210 feet in No. 6 Alphin, Section 11-16-15, and drilling at 2,625 feet in No. 8 Giller, Section 10-16-15; Pure Oil Co. has two rigs running on the Bilyew lease, Section 8-16-15, set 4½-inch at 2,380 feet in No. 3 Friend, Section 6-16-15, and rigging up to drill No. 5 and No. 6, same section.

A. H. Ramage set 6-inch at 2,390 feet in Lawton C-6, Section 10-16-15, rigging up to drill C-7, and derrick up for C-8, same section; Riggs Drilling Co. drilling at 2,350 feet in No. 1 Wingfield, Section 5-16-15; Roxana Petroleum Corp. set 6-inch at 2,440 feet in No. 4 Bilyew, and drilling at 850 feet in No. 5 Section 9-16-15, seven rigs running on the Flenniken lease, Sections 5 and 8-16-15, and four on the Hardy-Murphy, Section 9-16-15. Shreveport Oil Corp. has three wells drilling on the Murphy lease, Section 9-16-15, and the Simms Oil Co. has four on the Cook lease, Section 16-16-15

Southern C. O. P. Co. (Standard of Indiana) has derricks up for No. 6 and No. 7 Lyell, on the lease taken over from Dashko and others in Section 3-16-15; Standard Oil Co. of Louisiana has two rigs running on the Alphin lease, Section 3-16-15, and nine wells drilling on Hardy leases, Sections 4, 9 and 10-16-15. D. H. Stewart is drilling plug in 6-inch in No. 1 Murphy, Section 9-16-15; Sun Oil Co. arranging to deepen No. 4 Hatfield, and derrick up for No. 6, Section 6-16-15, rigging up to drill No. 3 Gaston, Section 5-16-16, and five rigs running and one rigging up to drill on the Hays lease, Section 3-16-15.

Sure Oil Co. has two wells nearing completion on the Flenniken lease, Section 5-16-15, and derrick up for N. 5 McClannahan, Section 6-16-15; The Texas Co. has three wells nearing completion on the Alphin lease, Section 3-16-15, and three on the Graves, same section, two on the Calloway and two on the Hays, Section 4-16-15; fishing at 2,306 feet in No. 1 Howard, Section 7-16-16, and set 6¼-inch at 2,295 feet, Section 7-16-16, and 6-inch at 1,925 feet, Section 14-16-15.

Thurman and others drilling at 2,100 feet in No. 1 Wingfield, Section 5-16-15; United Central Oil Corp. at 550 feet in No. 5 Murphy, Section 8-16-15; Unity Petroleum Co. at 1,030 feet in No. 2 Milner, Section 10-16-15, and Wetherbee and others arranging to pump No. 1 McGraw, Section 7-16-16.

Ouachita County, Arkansas

Increase in drilling activity continues in the north end of the Smackover Field, particularly in th eeastern portion where the development runs down into the deep sand territory. At the close of the week there were 81 drilling wells, 18 rigs and 35 derricks, with 4 new locations.

The Arkansas Fuel Oil Co. has four rigs running in Section 34-15-15; Bailey-Murray Oil Co. drilling at 2,200 feet in No. B-2 Rhoten, Section 32-15-15; Clark and Melat derrick up for No. 3 Murphy, Section 4-16-15; J. E. Crosbie commenced drilling May 10 on No. 6 Berry, Section 33-15-15, and set 10-inch casing at 310 feet.

El Dorado Union Oil Co. is drilling at 2,085 feet in No. 1 Eagle Lumber Co., Section 17-12-15; bailing to test 6 feet of sand at 2,274 feet in No. 5 LaGrone, Section 36-15-17; after setting 6-inch casing at 2,241 feet; rigging up No. 3 Umsted, in Section 4-16-15.

Forest Oil Co. set 10-inch casing at 72 feet in No. 2 Arnold, Section 26-15-16, and drilling at 1,000 feet; No. B-2 Lewis, same section, waiting on standard rig with 400 feet of oil in the hole at 2,267 feet; No. 5 Minor, Section 29-15-16, pumping salt water at 2,296 feet.

Gilliland Oil Co. is waiting on standard rig with 500 feet of fluid in the hole at 2,281 feet in No. S-6 LaGrone, Section 36-15-17; set 8-inch casing at 1,858 feet in No. 5 Myar, Section 32-15-16.

Gulf Refining Co. has three rigs running in Section 32-15-15; two in Sections 32-15-15 and 5-16-15, and one rig running in Section 34-15-15; Houston Oil Co. has derrick up for No. 3 Reynolds, Section 27-15-15; Howell and others have temporarily abandoned No. 2 Williams, Section 3-16-15, at 2,387 feet.

Humble Oil & Refining Co. set 6-inch casing at 1,994 feet in No. 1 Arnold, Section 26-15-16; rigging up No. 3 Farris, and derricks up for Nos. 4 and 5 Farris, all in Section 34-15-15; set 10-inch casing at 425 feet in No. 7 Flannigan, Section 6-16-15, and down 1,079; drilling No. 8 Flannigan, same section, at 988 feet; arranging to deepen No. 7 F. A. and B. T. Laney, Section 32-15-15, from 2,036 feet; (this well was formerly completed on March 11, 1923, estimated making 500 bbls.; drilling No. 3 F. Murphy, Section 3-16-15, at 513 feet; three rigs running in Section 5-15-15.

H. L. Hunt and others are drilling at 2,435 feet in No. D-1 Halton, Section 21-15-17; Imperial Oil & Gas Co. drilling No. 6 McClanahan, Section 6-16-15, at 890 feet; rigging up No. 7 and derrick up for No. 8, same section.

Invaders Oil Co. is drilling at 2,280 feet in No. 5 Miller, Section 5-16-15; D. N. Johnson drilling at 2,006 feet in No. 4 Farris, Section 34-15-15; E. M. Jones drilling at 1,830 feet in No. 1 Wilson, Section 26-15-18.

Louisiana Oil Refining Corp and others set 10-inch casing at 88 feet in No. 1 Tyson, Section 27-15-17, and down 1,17[illegible] feet; Leon and others drilling at 2,[illegible] feet in No. 3 Berg, Section 4-16-15; [illegible] pairing rig at 2,300 feet in No. 5 Berg, same section; rigging up No. B-1 Umsted, same section.

Magnolia Petroleum Co. set 12-inch casing at 225 feet in No. 1 J. Goodwin, Section 5-16-15; Marine Oil Co. set 6-inch casing at 2,342 feet in No. 4 Hays, Section 4-16-15; drilling No. 6 Hays, same section, at 2,053 feet; rigging up No. 5 Snyder, and derricks up for Nos. 6 and 7 Snyder, all in Section 34-15-15; drilling at 1,245 feet in No. 6 Umsted in Section 5-16-15; down 2,330 feet in No. 7 Umsted, same section; set 10-inch casing at 450 feet in No. 8 Umsted, also in Section 5-16-15.

Miles and others are rigging up No. 1 Neely, Section 26-15-16; Natural Gas & Petroleum Co. drilling at 2,015 feet in No. B-1 Hill, Section 5-16-15; Owenwood Oil Corp., drilling at 2,150 feet in No. 5 Snyder, Section 34-15-15.

Penguin Oil Co. is bailing to test at 2,268 feet in No. 3 Hardin, Section 27-15-16.

Phillips Petroleum Co. set 10-inch casing at 310 feet in No. 6 Joyce, Section 33-15-15; in Section 33-15-15, rigging up two wells; derricks up for two and made three new locations; Ramage and others bailing to test 12 feet of sand at 2,342 feet in No. 4 Jeffus, Section 25-15-17; J. D. Reynolds drilling No. 8 Berg, in Section 27-15-17, at 1,590 feet.

Roxana Petroleum Corp. is drilling at 2,252 feet in No. 3 Snyder, Section 34-15-15; set 8-inch casing at 2,367 feet in No. 4 Snyder; rigging up No. 1-A Snyder, and derrick up for No. 2-A Snyder, all in Section 34-15-15; skidding derrick of No. 1-A Umsted, Section 4-16-15; fishing job at 1,935 feet in No. 4 Umsted, Section 4-16-15; derricks up for Nos. 1 and 2 Williams, in Section 34-15-15.

Simms Oil Co. is rigging up No. C-6 Berg, in Section 32-15-15; derricks up for three wells, one in Section 28-15-15, one in Section 34-15-15, and one in Section 32-15-15; Sinclair Oil Co. has derrick up for No. 7 Berry, in Section 33-15-15.

Southern Crude Oil Purchasing Co. has derrick up for No. 3 Joyce, in Section 34-15-15.

Standard Oil Co. of Louisiana is drilling in gumbo at 1,900 feet in No. 4 R. Bennett, in Section 33-15-15; four rigs running in Section 5-16-15; two rigs running in Section 4-16-15; drilling at 276 feet in No. B-7 J. E. and N. B. Murphy, in Section 29-15-15; set 10-inch casing at 290 feet in No. 3 George Powell, in Section 34-15-15; set 10-inch casing at 312 feet in No. 16 Umsted, Section 32-15-15; drilling gumbo at 2,186 feet in No. 17 Umsted, Section 33-15-15; drilling shale at 1,100 feet in No. 18 Umsted, Section 32-15-15; and rigging up No. 19 Umsted, in Section 32-15-15.

Sure Oil Co. is rigging up No. 2 Hill, Section 5-16-15; derrick up for No. 4 Joyce, Section 34-15-15; set 6-inch casing at 2,343 feet in No. 2 Snyder, Section 34-15-15.

The Texas Co. is rigging up No. 6 Berry, Section 33-15-15; drilling at 2,090 feet in No. 5 Solmson, Section 32-15-16; Texas & Pacific Coal & Oil Co. is drilling at 2,465 feet in No. 5 Laney, in Section 31-15-15; Unity Petroleum Co. set 10-inch casing at 277 feet in No. 5 Berry, Section 33-15-15 and rigging up Nos. 6 and 7 Berry, same section.

C. W. White is drilling at 1,962 feet in No. 1 Hill, Section 5-16-15, and set 12-inch casing at 303 feet in No. 1 Martin, in Section 26-15-15; Wingfield and others down 2,106 feet in No. 1 fee, Section 5-16-15; drilling at 2,260 in No. 2 Umsted, Section 4-16-15.

Woodley Petroleum Co. set 6-inch casing at 2,335 feet in No. 5 Umsted, Section 4-16-15; drilling at 2,050 feet in No. 6 Umsted, Section 4-16-15; Zoller and Brown waiting on standard rig with 800 feet of oil and 20 feet of sand in hole at 2,328 feet in No. 1 Myatt, in Section 22-15-17.

Stephens Field

Buffalo Oil Co. tested dry, with small show of oil, at 2,209 feet No. 1 Wesson.

(Continued on Page 104)

News of Mexican Fields

By George Blardone

TAMPICO, Mex., May 15.—Drilling operations in the Cacalilao sector are best reflected by the following: La Corona Petroleum Co., in Lot : No. 152, running 6-inch casing at 1,940 feet; No. 171, in lime at 1,375 feet; No. 172, in same formation at 1,865 feet, having encountered a salt water pocket at 1,845 feet; No. 169, in lime at 2,200 feet, and No. 173 cemented 8-inch casing in the San Felipe at 1,190 feet. International Petroleum Co., in Lot 5: No. 173 in gray lime at 1,775 feet; No. 175, cemented 6-inch casing in the San Felipe at 1,217 feet; No. 177, in white lime at 2,062 feet; Nos. 179 and 180, in gray shale at 312 and 240 feet respectively; No. 181, in gray shale with the hole full at 1,710 feet; No. 182, in the San Felipe at 1,212 feet; No. 183, cemented 8-inch casing in the same formation at 1,220 feet; No. 186, in shells at 1,035 feet; No. 187, in the San Felipe at 1,240 feet; No. 188, in pink shale at 80 feet; No. 189 is running 8-inch casing in the San Felipe at 1,204 feet, and five more locations are rigging. Mexican Sinclair Petroleum Corp.'s No. 105-A, Lot 2, cemented 10-inch in the San Felipe at 1,180 feet; No. 64, Lot 3, fishing tools at 2,024 feet, lime; No. 90, same lot, cemented 8-inch casing in the San Felipe at 1,210 feet; No. 116, Lot 1, cemented 10-inch casing at 1,215 feet. New England Fuel Oil Co., No. 1, Lot 3, cemented 8-inch casing in the San Felipe at 1,152 feet. Transcontinental Petroleum Co.'s operations in Lot 4: No. 154, in gray shale at 825 feet; No. 158, in lime at 2,050 feet; No. 163, in the San Felipe at 1,250 feet, and No. 193, Lot 5, 10-inch casing in the San Felipe at 1,145 feet; Nos. 186 and 187, in the San Felipe at 1,785 and 1,400 feet respectively; No. 192 will cement 8-inch casing in the San Felipe at 1,250 feet, and No. 103, Lot. 5, cemented 12½-inch casing in gray shale at 600 feet. In the Paciencia, just north of Cacalilao, Transcontinental's Nos. 25 and 26 are in the San Felipe at 1,680 and 1,565 feet, respectively.

Panuco

Each week finds a few more rigs in the old Panuco sectors which indicates quite thoroughly a disposition to seek small wells or at least little strippers rather than to go farther afield in distinctly new territory at this time. La Corona Petroleum Co. is rigging for another test in the San Manuel as well as in La Polla. Down in the Caposo sector on the southwestern edge of the Panuco it is in shale at 18 feet for No. 5. Cochran and others' No. 7, Lot 4, E. Magnabes, has a chance for a little well as the test is making 200 bbls. as the drill descends at 2,070 feet. Credito Petrolero's No. 2 Piedras is in shale at 820 feet. East Coast Oil Co.'s No. 28 Laguna de la Milpa is in gray lime at 1,855 feet, and No. 29, same, cemented 8-inch in a similar formation at 1,450 feet. International Petroleum Co.'s No. 1 Piedras will finish with rotary from 1,440 feet. Mexican Sinclair Petroleum Corp. is moving in for another test in the Tananturo, No. 9. Mexican Atlas Petroleum Corp.'s No. 7 Palangana is in shale at 175 feet. Mexican Gulf Oil Co.'s No. 9 Cruz is getting deep in gray lime at 2,230 feet, and No. 1 Esterillos is cementing 8-inch in hard gray lime at 1,627 feet. National Oil Co.'s No. 15 Chijoles is in lime at 2,300 feet, showing about 150 bbls; Nos. 17 and 18 are each around 1,500 feet in gray shale. Tampascos Oil Co.'s No. 4 Barragan is shut down at 1,340 feet with a burned boiler. Thomas and others' No. 22, Lot 12, West Maguabes, is 400 feet in shale and No. 23, same, is around the same depth. Transcontinental Petroleum

(Continued on Page 110)

MIDWAY GAS CO.'S DOMINGUEZ HILL, CALIFORNIA COMPRESSOR STATION

contains nineteen Cooper 160 B.H.P. four cycle gas engines direct driving Cooper compressors.

We will do as much for you

If we can increase your personal income, help you to be less tired when night comes, make your job more permanent or help you to feel the honest pride that comes from doing a job that others admire then you are interested in us and in the gas engines and compressors we build.

Ninety-three years of ups and downs (chiefly ups) have taught us as an organization that if we can do these things for you, whether you are a company president or a compressor station operator, we are assured an honest living and more than the average amount of satisfaction. Hence occasionally we tell you a little about ourselves and repeat that we are getting a lot of fun out of building a real good gas engine and compressor. The fact that we do enjoy it helps us to work a little harder to build them better. By knowing us personally you understand that they are built better and why they are built better. Knowing this, you insist on Cooper equipment and it in turn does for you the very things mentioned in the beginning—increases your personal income or your satisfaction.

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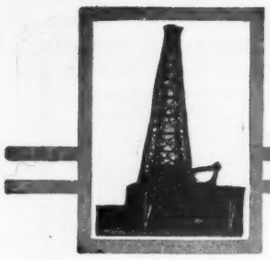

Southwest Texas Fields

By Staff Correspondent

Witherspoon Oil Co.'s No. 5 Brewer, Lockhart Field, makes initial showing at rate of 100 bbls. per hour. Cranfil-Reynolds-Marland's No. 10 F. A. Gomillion making 400 bbls; Humble's No. 1, H. F. Gomillion, 700 bbls.; Gulf Production's No. 4 Brewer, 500 bbls. Possible pipe line from Mirando to Gulf.

SAN ANTONIO, Tex., May 18.—Witherspoon Oil Co. has completed No. 5 Brewer, in Lockhart, making initial production at the rate of 100 bbls. an hour. It is on the 30-acre lease purchased from Lefevre & Storey, on which is located the discovery well of the field. The well is in the northeast corner of the tract and offsets acreage of the Sun and Mid-Kansas. The Witherspoon Oil Co.'s No. 4 Brewer, in the southeastern corner of the tract, is in and flowing a steady stream, and promises to make a good well. No. 5 promises to make as big a producer as any in the field.

Since last report Cranfil & Reynolds-Marland's No. 10 F. A. Gomillion has been completed, making about 400 bbls., initial production. Sun Oil Co. has completed No. 8 on the north edge of the field, offsetting Humble's No. 1 H. F. Brewer which is setting casing and making about 700 bbls. the first day. Gulf Production Co. has completed No. 4 Brewer making 500 bbls. Gulf's Nos. 1 and 3 on the M. L. Brewer 56-acre lease are drilling and due in soon. Gulf's No. 1 on the M. L. Brewer tract, south of and offsetting the Mid-Kansas No. 1 Brewer, which was a small well, is being deepened.

Humble's No. 2-A Brewer has been abandoned.

Operations of wildcatters about the Lockhart Field have been set back during the past week by a few dry holes and augmented by some new tests. Jake Jarmon's No. 1 Watkins, 3½ miles southwest of the field, is a dry hole at 1,700 having failed to find the Serpentine. Of the group of four wells averaging a mile southwest of the field that looked like producers a few days ago, the Cope and others on the Beatty, south of the Randolph and north of the Armstrong test on the Riddle, bailed dry and is probably a failure, though it got some oil and may go deeper. E. L. Smith Oil Co.'s No. 1 E. T. Lackey, on the Marland lease, probably has a producer but has collapsed casing. Randolph has collapsed casing and Armstrong has not completed his well. Three of the four are nearly sure to be producers. Cranfil & Jones on the Marland Tabor lease, a mile west of the others, went into the Austin chalk at 1,510 feet without encountering the Serpentine and is being drilled down to the Edwards.

Armstrong Brothers have moved a rig to the Will Thomas farm south of the railroad track and considerably south of the other tests named. Lucey, on the Marland's Palmer lease, got a dry hole in the No. 2 Palmer. It got the Serpentine but no oil. It may go deeper. Joe Walsh on the Marland's Eppright lease is shut down at 1,240 feet waiting for water.

Bastrop County

Plateau Oil Co. has spudded in No. 1 Calvin Coal Co. test in Bastrop County, 4½ miles south of Sayresville and about the same north of the town of Bastrop. It is 750 feet northwest of the Calvin Coal Co. mine. Plateau's block is south of the railroad. North of the railroad, acreage is being blocked, it is claimed, for a major interest, and south of McDade a block of leases is being collected, it is claimed, for Dallas interests.

Alexander & Lyle are soon to start drilling on the Joe E. Spooner 450-acre tract in the southern part of the county, about 2½ miles east of the old Dixie test on the Frank Litton farm, and may also start a test west of the Dixie's dry hole. Hamilton & Hutson are arranging to start a test east of the Spooner tract test. Reiter & Foster are drilling below 1,600 feet on the Milly Hicks, and C. V. Patton is drilling at around 1,000 feet.

Miscellaneous

Lefevre & Storey's No. 1 Blackaller in Frio County has spudded in and set 12-inch surface casing at 288 feet.

Clarence Garrett's No. 1 Houch in Wilson County, 9 miles southwest of Floresville, found only 3 feet of gas sand at 1,410 feet and has resumed drilling.

East Del Rio Oil Co. has drilled 20 feet into pink lime at 2,836 feet in Val Verde County in the east edge of the town of Del Rio and has quite a lot of gas and some oil showing. It is preparing to finish what is believed will be a commercial well. Drilling by wildcats has been in operation in that territory for years with many showings of oil.

Cardinal Oil Co. in Bastrop County, 8 miles east of the Lockhart Field, at 3,100 feet, is in the top of the Taylor marl.

Medina County

Kone-Willis are abandoning their deep test in Medina County on the Fusselman Murphy farm about 5 miles southwest of Dunlay and about 6 southeast of Hondo at a depth of 3,302 feet. The well encountered several cavities in keeping with the experience of many wells rather close to the Balcones Fault where things are badly broken up. It got some minor showings, it is understood, and nothing more.

Mid-Kansas Oil & Gas Co. which recently abandoned No. 1 Jacob Haby about 3 miles nearly due south of Dunlay at 1,607 feet when 100 feet into the Edwards is making a new location and it is understood may put two rigs at work on its block of leases.

For the past two years there has been considerable drilling about the P. E. Durst survey No. 15 in Medina County, 12 miles southeast of Hondo and about the same southwest of Dunlay where the Ina Oil Co. found some oil at a depth of about 925 feet. Rydal Oil Co. bought a half interest and drilled four wells with small production in each, and turned the wells and acreage about them back to Ina. Ina company has since been working over some of the wells. It has several wells classed as commercial producers but it is understood have not been on sustained production.

Arnett Oil Co. recently secured the Nixon lease on the west side of the Hondo River where R. P. O'Brien had drilled one well which was in bad shape with casing cracked at the top and letting in water and one well drilling. The second well is now being cased at 927 feet having encountered pay sand and will put in two rigs and endeavor to complete a series of wells and will work No. 1, which is leaking water. A rock is encountered at about 914 feet and under it about three feet of sand with some oil and then a thicker rock and under it somewhat greater production.

Ina Oil Co. is now drilling at about 1,247 in No. 1 Wilson nearly due north of the Arnett about 1 mile and west of Ina's discovery well less than a mile. It is thought possibly the field may resemble the Humble Field with a series of sands getting better with greater depth. No deep tests have been made in the vicinity of the discovery well. W. C. McBride, Inc., in the early months of the field's discovery, about a mile southeast of the Arnett well, drilled to around 1,400 feet having a good showing of oil but with salt water above, which was not cased off, when reached and the well was never completed.

A. G. Kiefer has moved in a heavy type rotary rig and will make an Edwards lime test on the Jay E. Adams, Jr., land in survey 12 of Medina County, about 1½ miles south of the McBride test and like the McBride test, on the east side of Hondo River. The location is 150 feet north of a well on the same tract drilled by the B. J. K. Oil Co. nearly two years ago to a depth of 1,120 feet which got some oil and gas showings the oil being 39 gravity.

The Kone-Willis well that has been abandoned at 3,302 feet is about four miles north of the center of Ina Oil Co. operations.

Western Lampasas-Bisbee Oil Co.'s No. 1 Haeglin, 5 miles due west of the Kone-Willis and the same distance south of Hondo is drilling at 1,635 feet.

Smith & Carson have a derrick up on the Wilson farm in the Ina territory between the Arnett well and the Ina's 1,247-foot test but have not yet secured a rig. Hondo Drilling Co. has a contract to start a test about 2½ miles west of the Ina area and on survey 532. Amy Oil Co., south of Devine, is shut down at 2,647 feet in the No. 1 Whippf.

Three Rivers District

Another effort will likely be made to find a second sand north of the Frio River in the Calliham Field in McMullen County. Lightfoot & Co.'s No. 5 Lark, drilled by the Texas Pacific Coal & Oil Co. has been abandoned as a water well at 1,070 feet. There was some oil but the well could not be completed on account of water. Casing was set too high at around 1,000 feet, expecting to go into an oil sand. It was water instead. At 1,070 feet an oil showing was encountered. Attempts to cement off the water were unsuccessful. Either another test will be drilled or one of the 750-foot shallow producers on the lease will be deepened and casing set through the water sand to test out the 1,070-foot showing.

Old Ocean Oil Co.'s No. 4 Calliham in the shallow oil center of the Calliham Field which was drilled in at 817 feet got about 500,000 feet of gas. It is a little below the first oil sand. Same company is rigging up on No. 6 Cox, just south of the Frio River. Coquat Hicks No. 2 is drilling at 670 feet. Grubstake Investment Association's No. 1 Aycock is drilling at 205 and Jacob's No. 3 is drilling at 740 feet. D. C. & M. C. Syndicate's No. 4 Lowe is drilling at 2,300 feet. Lowe's No. 7 has been spudded in. San Balt's No. 3 Shiner is rigging up on the Shiner ranch south of the Nueces River.

Glasco & Fallin's No. 1 Charles Tips, 1 mile northwest of Three Rivers, completed recently as a gasser, is showing a little water, believed to be due to faulty setting of casing. The well ran wild for a day when it first came in and it is suspected there was not a good seat for the casing.

Plateau Oil Co. and Texas Pacific Coal & Oil Co.'s joint No. 1 D. B. Miller which was expected would bring in a second gas sand in the southern Live Oak County is delayed with a fishing job.

The Texas Co.'s No. 3 Reagan is drilling at around 800 feet, on the Reagan farm north of Oakville in Live Oak County.

Bexar County

W. L. McClannahan and others' No. 1 Thompson in eastern Bexar County is testing a shallow sand from 630 to 656 feet, having set large sized casing with packer so as to be able to carry the hole down for a deep test. The sand is brown sugar sand and full results of the test had not been obtained. The well is about 2 miles east of where the Good Oil Co. is attempting to complete a well at a little below 1,400 feet in Taylor marl shale. Both tests look like small producers.

Two wells were completed on the Thompson farm a few years ago at a little below 600 feet by the Ray Oil Co. but with indifferent success, due it was claimed to the manner of their being completed. Good Oil Co. topped the pay at 1,390 feet and after ratholing ahead and becoming convinced there is enough formation to make a commercial well, is arranging to set casing and drill the well in to the top of the Austin chalk which was found in No. 1 at 1,586 feet. It was expected that some time early this week the test would be completed and brought in and its production determined. The operators have started digging sulshpit and doing other preliminary work towards starting the No. 1 Jeff Gabriel which will offset No. 3 Cantu on the southeast and announce they will put

(Continued on Page 104)

East Central Texas

By Staff Correspondent

CORSICANA, Tex., May 16.—A 500-bbl. well in the deep sand in the Powell Field was the feature of an otherwise uneventful week in the East Central Texas Feld.

The only new activities in the East Central, Texas, area are in Navarro County where the shallow sand in the Powell Field is getting the attention of companies operating there. The Wortham Field in Freestone County is drilled up with the exception of three active drilling wells which will likely be reported as completions in the next report, while the Limestone side of the field has only three remaining operations. Most of the work in Limestone County is in the Groesbeck area and there is but little of that.

In Hunt County the Rycade Oil Co. abandoned No. 1 Lytol, McAdams survey, at 3,520 feet.

In Navarro County the following completions were reported:

Oxford Oil Co.'s No. 1 Hill, Smith survey, sand at 2,815-35 feet, 500 bbls.

Atlantic Oil Refining Co.'s No. 19-B Irvine, Taylor survey, sand at 1,550-1,62[illegible] feet, 40 bbls.; No. 20-B Irvine, sand at 1,556-1,618 feet, 50 bbls.

Humble Oil & Refining Co.'s No. [illegible] Smith, Havens survey, sand at 1,525-[illegible] feet, 54 bbls.; No. 11 Kent, Smith survey, sand at 1,556-1,600 feet, 23 bbls.

Garland Kent's No. 2-A Kent, Havens survey, dry and abandoned at 1,675 feet.

Roxana Petroleum Co.'s No. 3 W. Smith, Havens survey, sand at 1,612-[illegible] feet, 50 bbls.; No. 4 Smith, Havens survey, sand at 1,620-61 feet, 45 bbls.

Andrews Petroleum Co.'s No. 1 McCage, McNeal survey, dry and abandoned at 1,840 feet.

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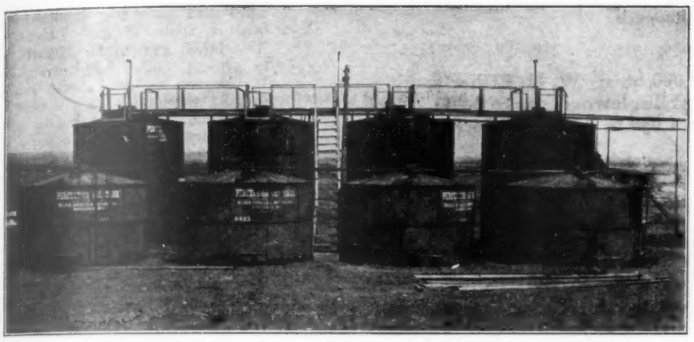

A perfection battery in a well-known Oklahoma field.

The immunity of Perfection Vapor Pressure tanks from fire has been demonstrated in the oil fields of the country time after time. Probably the most notable example was 2 years ago, when the Roland Oil Company's lease in the Bristow Field was visited by fire. While all other tanks caught fire and the contents consumed, a Perfection Vapor Pressure Flow tank came through unscathed although constantly covered with the flames. Neither the gas or oil caught fire and it kept on at its duty of separating through the thick of it all.

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California Field Operations

By L. P. Stockman

Paul Getty's No. 2 Athens best in Rosecrans, over 3,000 bbls. W. H. Fisher's No. 9 yields 2,570. Standard Nos. 4 and 5 Vickers, at Inglewood, make 1,000 bbls. each. Associated's No. 2 Vickers increases from 1,086 to 1,800 and Petroleum Midway's No. 2 Moynier 796 to 1,580 bbls.

LOS ANGELES, Calif., May 16.—Three wells were finished in the Rosecrans Field during the past week, two of them being of rather large proportions. Paul Getty's No. 2 Athens was the largest of the trio finished and incidentally the best well completed in the field to date. It has just come in but a tank gauge made of the flow during the first 11 hours indicates that it will be good for better than 3,000 bbls. a day. It was drilled to 4,234 feet and finished with an 8¼-inch oil string and 3,980 feet of 3-inch tubing. The oil, which tests 32.3 degrees and shows a cut of 2 per cent, is flowing through a ¾-inch bean under a pressure of 410 pounds. This is Paul Getty's second success is as many wells drilled and the combined production of his Nos. 1 and 2 ranks him as the largest producer in the Rosecrans Field at present. George Getty has yet to finish his first producer, but judging by the depth of his seven drillers, some of them will be put on production within a short time.

Walter H. Fisher's No. 9 is yielding 2,570 bbls. of clean 32.6 gravity oil from 4,478 feet. This well was finished during the early part of the week and has shown a very consistent production since completion. In addition to the oil, the well is making about 1,000,000 feet of heavily saturated gas, yielding a large amount of casinghead. Fisher's No. 8, which made a short flow from 5,008 feet, has been killed because of water trouble and a string of 6¼-inch will be landed in an effort to overcome this difficulty. No. 1-A Vaughn of the General Petroleum did not have sufficient kick to flow and on a pumping test made 222 bbls. of 28.6 gravity oil from 4,728 feet. The output is showing a rather large cut, however, ranging anywhere from 15 to 30 per cent. The Petroleum Midway killed No. 1 Kreitz, which made a short flow from 4,035 feet, and will deepen it in the hope of increasing production, as it was only a mediocre well in the upper sands. The Marine Oil Co. cored a fairly good showing in its No. 32 Rosecrans between 4,697 feet and 4,700 feet and indications point to at least a small well. The company has just recovered from a fishing job of several months duration in this well and deserves a little more than ordinary success for its perseverance.

Inglewood

The Standard experienced a rather successful week at Inglewood and increased its daily production 2,062 bbls. by finished three new producers. Nos. 4 and 5 on Vickers Lease No. 1 were each good for 1,000 bbls. a day, the oil in each case testing 18.1 degrees and showing a cut of approximately 2 per cent. The former was drilled to 2,530 feet, while the latter was finished at 2,547 feet. Well No. 3 on Vickers Lease No. 2, was a 62-bbl pumper, the oil testing 15.1 degrees and showing a cut of 15 per cent. There is some doubt as to whether a successful shut-off has been effected and, unless the production cleans up soon some additional work will undoubtedly be undertaken. The well was drilled to 2,207 feet and finished with an 8¼-inch oil string carrying 120 feet of 80-mesh screen. The Standard has several other prospective producers in this field and, judging by the number of new rigs going up, will undoubtedly maintain its present rather large drilling program during the balance of the year.

Considerable work is being done on the Los Angeles Investment lease but the results obtained to date have been nowhere near as successful as that achieved from operations on the Vickers' leases. The latter property, of course, is more favorably located and productive of better results. No. 6 on Los Angeles Investment Lease No. 1, is scheduled for a test tomorrow and it looks good for about 150 bbls. a day from 1,958 feet. No. 8, on this lease, should be on production shortly, as it is in the oil sand at 1,880 feet with less than 200 feet to go to completion depth. No. 9, at 1,225 feet, and No. 10 at 1,165 feet, are also showing oil, but they have several hundred feet to go before reaching the finishing depth. Barring mechanical trouble, however, they should be tanking oil within two weeks. No. 11 is rigging up, while material is being moved in for Nos. 7 and 14. The two drillers on Los Angeles Investment Lease No. 2, No. 3 at 1,724 and No. 4 at 1,611 feet, will undoubtedly appear in the completion list within the next three or four weeks, as they are already exhibiting favorable indications. No. 6 at 1,636 feet, No. 7 at 1,320 feet and No. 8 at 1,026 feet are free of mechanical trouble and look good for early production, considering the fact that they are favorably located and require only a short drilling time. No. 9, on this lease, is a steel rig and No. 10, material. No. 4 on Vickers Lease No. 2 is just getting under way at 1,000 feet, with a steel rig going up for No. 5. The first hole on Vickers Lease No. 3, No. 1 at 115 feet, is still standing suspended and, although a location has been staked for No. 2, nothing further has been done toward starting work.

Wells Increase Production

The most interesting development in the field during the week was the increased production noted from the tank gauge of No. 2 Vickers of the Associated and No. 2 Moynier of the Petroleum Midway, recent completions. The former, which was brought in flowing at the rate of 1,086 bbls. a day, averaged better than 1,800 bbls. daily during the past week, while the latter, given its initial production test during the early part of the week, rose from 796 bbls. to a maximum output of 1,580 bbls. yesterday. No. 2 Moynier, drilled to 2,567 feet and finished with an 8¼-inch oil string carrying 862 feet of 80-mesh screen, is flowing through a 1¼-inch bean under a pressure of 180 pounds, the oil testing 19.1 degrees and showing a cut of 2 per cent. Judging by the kick which No. 3 Moynier is exhibiting at 2,556 feet, it may perhaps equal the output of No. 2 when it is given a try some time within the next few days. No. 4 is rigging up, while the finishing touches are being put on the derrick for No. 5.

The Associated, following the remarkable output shown by its No. 2 Vickers, is going right ahead with a big drilling program, evidently figuring on securing flush production before the gas head has passed off. The company has an excellent property, probably the best in the field, and has been quick to take advantage of this condition. An unusually thick sand is present and this augurs well for a quick payout and long production. Edge water will undoubtedly appear in this sand in time but it will probably not have as great effect on the output as it has had in some of the other larger fields, such as Huntington Beach and Santa Fe Springs, where it assumed serious proportions. The thickness of the sands at Inglewood is evidenced by the logs of several Associated and Standard wells. The former's No. 3 is now in an oil sand at 1,270 feet, while No. 4 at 1,360 feet, No. 5 at 1,860 feet, and No. 6 at 1,850 feet are in a similar formation. This shale and oil sand is continuous down to 2,550 feet and the company, by taking advantage of this long sand, is able to secure large wells. The Associated's next producer will undoubtedly be No. 8 Vickers, now nearing completion at 2,512 feet. No. 9 at 1,322 feet and No. 10 at 1,311 feet are drilling ahead rapidly. It is believed that as soon as the wells now drilling have been finished, the company will spud in Nos. 7, 11, 13, 14, 15, 17 and 20, which are in various stages from material to rigs.

More Than 1,300 feet Oil Formation

The Petroleum Securities has so far had the longest straight run of oil bearing formation logged at Inglewood, exceeding the best previous record by nearly 100 feet. The company's No. 6 Cone, now at 2,550 feet, has passed through more than 1,300 feet of oil sand and oil bearing shale. No. 2 Vickers, of the Associated, the field's largest producer at present, had a little over 1,200 feet. If this can be used as any criterion in judging production, No. 6 Cone, of the Petroleum Securities, should better the Associated's record well, No. 2 Vickers. All companies, however, do not handle wells in the same manner and many good producers are lost through carelessness and unfamiliarity with prevailing conditions. The Associated has made a special study of the sand conditions existing in this area and its success is due to this work rather than to any degree of luck. Joseph Jensen, the Associated's chief geologist, is considered one of the best petroleum engineers in the State and the company's success is due, in a great measure, to his ability to appreciate subsurface conditions.

The Petroleum Securities has been unusually successful in its drilling operations during the past few years, especially, and, in view of the record, it is safe to assume that this company will secure maximum production. No. 5 Cone, at 1,540 feet, and No. 7 Cone, at 1,280 feet, are both drilling ahead in a shale and oil sand with good prospects for early completion. On the Dabney-Lloyd property, the Petroleum Securities has one producer, No. 1, making 760 bbls. a day, and two drillers, No. 2, at 1,320 feet, and No. 3, at 1,426 feet. Rigs are standing for Nos. 4 and 5 and a location staked for No. 6. On the Rubel property, the company has No. 1 at 1,208 feet, No. 2 at 1,255 feet, No. 4 at 1,209 feet, No. 5 at 1,209 feet, No. 10 at 1,205 feet and locations for Nos. 6, 7, 8 and 9. The Browmoor Oil Co. is rigging up Nos. 2 and 3 and hauling in material for No. 4. No. 1, which has ujst passed the 1,000-foot level, is being drilled under contract by McKeon Drilling Co., but the Brownmoor will drill the other three holes itself. Because of the number of producers on adjoining property, very little time will be lost in offset drilling. The Universal Consolidated has completed the abandonment of No. 1 Youngworth, drilled to 3,900 feet, and is leaving the area.

Dominguez

The Union added a 462-bbl. well to its list of producers at Dominguez, when No. 9 Callender was given a test during the early part of the week. The production, which is coming from 4,210 feet, tests 30.8 degrees and shows a cut of 3 per cent. No. 12 Callender, the only other driller on this lease, is going ahead at 2,200 feet, while No. 10 Hellman is making hole at 2,300 feet. The company is carrying two suspensions on the Carson lease and three on the Hellman. The Shell has two active drillers at present, No. 6 Manuel at 2,300 feet and No. 1 Childs, a deep test, at 6,025 feet, although there are several others suspended, on which work may be resumed at any time. The Marland has just passed the 5,000-foot level in its deep test, but has not logged any important showings since spudding.

There were no completions recorded at Long Beach, although there are one or two holes which should be in shortly. No. 1 Dolley of the Shell looks quite favorable at 4,630 feet, although a large production is not anticipated. The Hub Oil Co. recovered from a fishing job of several months' duration in No. 2 Beck and, since the hole has been cleaned out and the oil string landed, an early test is expected. The company's three new drillers, No. 1 Rogers at 3,135 feet, No. 1 Wellman at 2,851 feet and No. 1 Hunt at 2,998 feet, are making excellent progress. Hall & Weber's No. 1-A picked up a fairly good showing at 4,560 feet.

(Continued on Page 103)

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Following is a list of tankers, date departed, destination, kind of cargo and amount in barrels:

Samuel Q. Brown, May 5, New York, crude	75,002
David McKelvy, May 5, New York, crude	75,599
Derbyline, May 6, Philadelphia, crude	75,344
Swiftscout, May 6, Fall River, crude	77,124
Robt. E. Hopkins, May 8, New York, crude	75,029
Emidio, May 9, Baltimore, refined	77,285
J. C. Donnell, May 10, Philadelphia, crude	101,552
Coastwise	
W. S. Miller, May 4, Astoria, fuel	73,860
Los Angeles, May 5, Martinez, crude	74,719
K. R. Kingsbury, May 5, Richmond, crude	80,976
J. A. Moffett, May 5, Portland, fuel	64,915
H. M. Storey, May 9, Richmond, crude	100,427
Los Angeles, May 10, Martinez, crude	73,068
El Segundo, May 10, San Diego, refined	30,687
Betterton, May 10, Avon, crude	75,618
La Placentia, May 10, Oleum, crude	74,937
K. R. Kingsbury, May 10, Richmond, crude	83,119
Exports	
War Nizam (Br.), May 5, Balboa, fuel	55,827
Tamaha (Br.), May 6, Cavite, fuel	60,197
Mina Brea (Br.), May 8, Vaucouver, crude	43,956
U. S. Tanker Kanawha, May 8, Honolulu, fuel	60,285
Mojave, May 8, Japan, crude	67,618
San Dustano (Br.), May 9, England, refined	75,002
U. S. Tanker Neches, May 9, Honoluiu, fuel	58,974
Scalaria (Br.), May 9, England, refined	70,929
From Ventura	
Paul Shoup, May 5, Avon, crude	77,569
Frank H. Buck, May 6, Avon, crude	63,416
From Port San Luis	
San Antonio, May 8, San Francisco, fuel	70,119
From San Francisco	
Richmond, May 4, Seattle, fuel	63,040
Swiftlight, May 6, Fall River, tops	78,119
Adna (Br.), May 6, Japan, fuel	52,796
Kewanee, May 8, Los Angeles, refined	37,641

LANATORY

DIRIJASE TODA CORRESPONDENCIA A LA

COMPAÑIA DE PETROLEO "CALTEX," S. A.

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TAMPICO, TAMPS., MEXICO.

April 25th, 1925.

The Reed Roller Bit Co.,
Houston,
Texas.

Gentlemen:

It is with great pleasure that I write you regarding the performance of your 7-3/4 Bit in Drilling our No. 6 Well in Camalote in the old Panuco District.

Upon reaching the San Felipe lime in our No. 6 we decided to try out one of your Roller Bits, after several other makes of Bits had failed to do the work satisfactorily.

We put in a Reed Bit at 1750 feet, 7-3/4, which went through the lime in exceptionally good time--making 455 feet in this formation without a single change of cutters. The second and third sets of cutters made 105 and 98 feet respectively, but the formation in which these were used was very much harder.

The lease upon which we drilled No. 6 is situated in the Panuco Field, the East Coast Oil Co. and Freeport Mexican Petroleum Company having property near by. We do not believe that any companies in that section have heretofore used the Reed Bit, so without any reluctance we are glad to endorse the use of your product and can assure you that we shall use the Reed Bit in all our future rotary drilling.

From our experience with your Bit we feel sure that it will prove a most satisfactory one for use in that territory, and unhesitatingly recommend it to others.

Yours very truly,

D. [illegible] Berendgs

Field Supt.

Rocky Mountain Area

By F. B. Taylor

New York Oil Co. arranging to pipe Sand Draw gas to Casper and to start work on compressor plant at Teapot. Producers & Refiners' well at Sand Draw estimated 200 bbls. Colorado has slight increase. Midwest Co. completes eight in Salt Creek where The Texas Co. is starting tests.

CASPER, Wyo., May 16.—The New York Oil Co. has completed arrangements by which the firm is to take gas from the San Draw gas field in Fremont County, carry this gas by pipe line to a connection with the present gas line leading from the Poison Spider Field to Casper, and thus deliver the Sand Draw gas into Casper for local consumption. A deal is still pending by which the New York Oil Co. may take over the Producers & Refiners' pipe line from the Sand Draw Field into Riverton, Hudson and Lander, which supplies gas from the Sand Draw to these points.

The final arrangements were completed at Casper when the officials of the company ratified the agreements made by General Manager Minal E. Young, of the New York Oil Co., at a meeting called for this purpose. The officials here to attend the meeting from distant points were E. H. Steiger, president; Whitney Case, first vice president; Mrs. Harriet C. Curtis, of Jamestown, N. Y.; Harry Hynds, of Cheyenne, Wyo.; John P. Herrick, of Olean, N. Y., and A. G. Setter, of Cataragus, N. Y.

A few weeks ago the New York Oil Co. injected some excitement into the local oil circle by the taking over by purchase of the Central Pipe Line Co.'s line from Salt Creek to Casper. This is an 8-inch line carrying oil from the field to The Texas Co.'s refinery at Casper. Then on the heels of this announcement came another stating that the New York Oil Co. had secured a contract for the gas production of Teapot Dome. Other companies had tried to obtain this gas but had not been successful.

The New York is now busy starting work on a large compressor plant at Teapot to take care of this gas and, for a time, contemplated laying a 10-inch line to Teapot to take care of the residue gas by carrying it to Casper for the domestic service here. The oil line purchased from the Central Pipe Line Co. is shipping about 3,000 bbls. daily and through an advantageous contract this crude is marketed upon Mid-Continent prices instead of the prevailing market prices for crude as quoted by the purchasing companies in Wyoming. In this way the New York Oil Co. is able to deliver its own production and any outside production that may want transportation to Casper through its own lines

Sand Draw Producer

The well of the Producers & Refiners at Sand Draw Field, south of Riverton in Fremont County, is showing for a producer in the gas sand that has produced gas so far in that field This well is on Section 14-32-95 on the lease of the Riverton Petroleum Co. It was shut down as soon as oil commenced to show and considerable gas was struck also, so estimates as to the production are apt to be erroneous. Conservative statements place the well as good for 200 bbls.

The Sand Draw Field was opened in 1919 by the Carter Oil Co. and the Producers & Refiners. The drilling proved the area to be a gas production and the gas was rich in gasoline content, so much so that for a time the gas was turned into tankage and the condensate collected and sold by simply allowing it to collect in tanks while the gas escaped. Afterwards the Producers & Refiners laid a line to Riverton and then extended the line to Hudson and Lander, supplying these points with gas. A gasoline extraction plant was located at Riverton, also a carbon black plant that utilizes the residue gas from the compressor plant.

In the LaBarge Field in Lincoln County, southwestern Wyoming, the Midwest is putting in a new sand reel to replace the one that blew up and dropped the bailer in the hole. The bailer and line has been cleared from the hole and drilling will be resumed as soon as the new reel is in place. The hole is standing at 3,400 feet. The Transcontinental well in the same field is at 980 feet and is having some trouble with water. This well struck a flow of gas at 750 feet in an 11-foot sand. The Lackey well is spudding at 200 feet and the Wyota Oil Co. is spudding.

The Midwest Oil Co., a subsidiary of the Midwest Refining Co., has entered an injunction suit in the local district court at Casper against the Natrona County Commissioners, asking the court to prohibit the county officials from the collection of a storage tax on crude oil after the production tax has been paid. A short time ago the commissioners ruled that the oil in storage here on the Midwest tank farm could be taxed again and ordered the assessor and treasurer to collect same. The Midwest paid to the Natrona county treasurer $266,232.71 a few days ago, the largest sum paid by any corporation in the county. The Standard of Indiana paid $76,327.17. The oil companies pay by far the largest taxes of this part of Wyoming, the Burlington Railroad paying only about $21,000.

Montana Operations

In the Montana fields the Cat Creek area is to have a deep test in the west end of the operation on the leases of the California Co. This well is known as the California No. 7 and is rigging up to drill through all formations to 4,000 feet. The second shallow hole on the McDonald structure southwest of Cat Creek is drilling slowly, running daylight tours only.

While Cat Creek is quiet, Sunburst Field has 50 strings of tools active and the operators there expect to see 250 wells drilled by fall. There are 240 producing wells in the field now and the low cost of drilling is attracting many small companies. Many wells are being drilled with only a few joints of large casing and in case the well finds production the smaller casing is then purchased and run in.

Colorado Increase

Colorado showed a slight increase in oil production the last two weeks. The Fort Collins Field shipped 1,068 bbls.; the Moffat Field shipped 793 bbls., the Florence Field sent out 245 bbls., Tow Creek 136 bbls. and Rangely 100 bbls. daily. Fort Collins and Moffat both showed a slight increase and the State's production total averaged 2,376 bbls. daily. All the fields are rather quiet except Fort Collins and Wellington where the operators are busy, the Union of California leading the rest with a dozen strings of tools busy.

Salt Creek Completions

The Midwest Refining Co. completed eight wells the past week in the Salt Creek Field. The Midwest Oil Co. completed a well that will make a small pumper on Section 35-40-79 at 1,595 feet, one on Section 22-40-79 that started off at 28 bbls. from 1,970 feet, one on Section 19-40-78 that produced 50 bbls. at 2,215 feet in the second Wall Creek sand, another on the same section that will do 30 bbls. from the same sand at 2,035 feet.

The Midwest Oil Co. and the Wyoming Associated Oil Co., drilling jointly on Section 25-40-79 have a small pumper at 1,715 feet and on Section 12-40-79, the same two companies have a producer good for 85 bbls. in the second Wall Creek sand at 2,331 feet

The Wyoming Associated Oil Co. drilled in a small producer on Section 14-40-79 in the second Wall Creek sand at 2,003 feet and another well that did 41 bbls. on Section 24-40-79 from 1,580 feet.

The Whitman Oil Co. drilling on Section 4-34-2 in the south end of the Sunburst Field, in Toole County, Montana, brought in another gusher on this famous section. It is making 200 bbls. per hour from about 1,500 feet.

Following the lead of the Ohio Oil Co. at Lavoye, The Texas Co. has moved to oust the new townsite of Edgerton on Section 29-40-78 in the Salt Creek Field. This townsite is located on the former Kinney Coastal leases on the east side of the field by real estate operators who expected to locate a new town there and secure the buildings and residents of Lavoye.

Tests by The Texas Co.

The Texas Co. will also drill 11 wells on its holdings in Salt Creek in order to increase the production the company now has there. The refinery at Casper can use more crude than the company is producing at present and with these 11 new wells The Texas Co. expects to run the Casper plant at or near capacity.

The Rocky Mountain Gas Co. is connecting its gas line serving the city of Rawlins, Wyo., with the gas line leading from the Hatfield Oil Co.'s well at Eight Mile Lake Dome. This is being done to insure service to Rawlins in case accident should prevent the Lost Soldier line from functioning and is merely for protection.

Parco, the town where the Producers & Refiners recently completed the refinery on the nion Pacific, in southern Wyoming, held its first election of city officials the past week and General Manager R. E. Wertz, of the Producers & Refiners, was elected mayor without any opposition.

The failure of the oil companies in Montana to pay the State gasoline tax has caused much confusion in the State treasury department. The attorney general has issued a statement that the companies are not within their rights in withholding the tax in spite of the fact that the supreme court held the law to be unconstitutional. The attorney general is reported to be preparing suits against each company.

The Union Oil Co. of California is building a compressor station in the Fort Collins Field to take care of the gasoline content of the gas production there and a conference has been held between officials of the Prairie Oil & Gas Co. and

(Continued on Page 103)

News from Fields of Canada

By Victor Lauriston

CHATHAM, Ont., May 16.—It is reported on semi-official authority that Royalite Oil Co. No. 4 in the Turner Valley Field, southwest of Calgary, in April increased its gasoline production to an average of 400 bbls. a day. In addition to Nos. 5 and 6 tests now rigging up for the Royalite Oil Co., four new tests will be started in this field by other companies. The McDonald Syndicate of Vancouver, B. C., has moved part of its equipment from the McIntyre lease test in southern Alberta and will drill a mile south of Royalite No. 4 and close to the southernmost of the two new Royalite tests. The McIntyre well in the south will likely be finished later by the McDonald syndicate.

Sweetgrass Field

In the eastern section of the Sweetgrass Field, Canadian Oil & Refining Co. (Rogers-Imperial) Section 29-1-11w4, is reported drilling around 2,650 feet, in a black lime supposed to overlie the Ellis sands. The well is kept filled with water to hold back the gas, but casing will be set in the black lime and the hole baled dry. Jack Reynolds of Lethbridge had the contract for completing the well to the Ellis sand, and W. B. Nicholson is in charge of the drilling. Reynolds and his associate, A. Lessard, who took over the completion of the well this spring, are to receive certain acreage and other concessions in the field in return for the work. They secured financial backing in Calgary, ten business men putting up $1,000 each and sharing in the benefits of the Reynolds-Lessard contract on a 50-50 basis. It is expected that 150 feet of drilling will finish the well. It is claimed small quantities of oil have been brought up by the bailer, and that when the gas from the well was run off through a 6-inch pipe, oil dripped from the joints. Nothing approaching commercial oil production has been secured, though the gas production is around 22,000,000 feet a day. The location is 33 miles east of Coutts, and about 12 miles north of the Gladys Belle-Brown gasser in the Sweetgrass Hills, Montana.

About a mile north of the Rogers-Imperial, Imperial Oil, Ltd., is drilling its Dead Horse Coulee test below 1,000 feet with a 16-inch hole. A heavy rotary outfit with four boilers is being used. The location, at the bottom of Dead Horse Coulee, is about 200 feet lower on the structure than the Rogers-Imperial gasser, the formation dipping east, west and north, the east and west dip being about 50 feet to the mile. The test is planned to finish with an 8-inch hole.

Some leasing is reported in the vicinity of the abandoned test of Imperial Oil, Ltd., at Red Coulee, about 4 miles west and 3 miles north of Coutts. L. R. Olsen and associates are planning to drill in this territory.

The city of Edmonton has granted industrial concessions including a 5-year lease on a 20-acre site with option to purchase at $100, to Messrs. Mercer and Anderson, for the construction of a refining plant.

C. W. Dingman, Dominion inspector of oil and gas wells for Alberta, recently inspected drilling operations in the Many Islands Lake and Sweetgrass fields.

Ontario

In Kent County, Ontario, the Union Natural Gas Co.'s No. 257 on the Askew farm, Tilbury East township, has finished a small gasser in the Tilbury sand

(Continued on Page 103)

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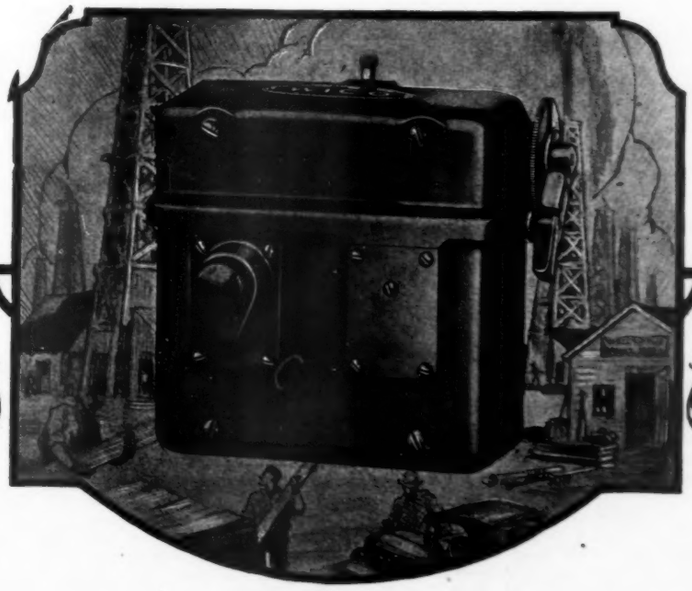


THE WICO ELECTRIC CO. SPRINGFIELD, MASS. U.S.A.

BRANCH AT TULSA

Gulf Coast Oil Operations

By P. L. McGreal

Gulf Production Co. gets 2,000-bbl. well of Grade A oil at Blue Ridge Dome and 1,200-bbl. completion at High Island. Thirteen South Liberty wells have aggregate of 8,670 bbls., the pool's production reaching 20,400 bbls. for 24-hour period late in week, though full week averages less.

HOUSTON, Tex., May 18.—The outstanding features of the week in the Gulf Coast belt were the Gulf Production Co.'s 1,200-bbl. well at High Island, Galveston County, a partially defined saline dome and a 2,000-bbl. well by the same company on the southeast side of the Blue Ridge Dome at 4,060 feet. The oil grades as A, whereas the other wells there grade B. A total of 13 wells were completed in the South Liberty Pool during the week, having 8,670 bbls. initial output. The daily production in that pool rose to 20,400 bbls. for a 24-hour period late in the week, which is the record to date. The estimated daily average, however, for the week, is less than the latest figures for one day.

Two wildcats were abandoned and one is bailing in Fort Bend County.

The following table summarizes the results of operations in the coastal area during the week ending May 16:

District—	Comp.	Prod.	Dry	S.W.	Blg.
Blue Ridge	1	2,000	0	0	0
Humble	1	....	0	1	0
Hull	8	6,400	1	3	3
Lockport (La.)	1	....	1	0	0
Markham	1	....	1	0	0
Pierce Junction	0	....	0	0	1
Goose Creek	0	....	0	0	1
South Liberty	13	8,670	2	3	3
Saratoga	1	....	0	1	2
Spindletop	1	30	0	0	0
Sour Lake	1	45	0	0	0
Vinton (La.)	1	....	0	1	0
West Columbia	1	10	0	0	0
Miscellaneous	3	1,200	2	0	1
Totals for week	33	18,355	7	9	11
Totals last week	27	10,355	6	0	9

The estimated daily average gross production for the week of May 16 in the Gulf Coast region is placed at 107,094 bbls. The estimate for the Southwest fields is placed at 48,195 bbls. for the same period. The average for the week in the Lockhart Field is 7,175 bbls., an increase of 1,855 bbls. over last week's figures. The increase is due to flush production there. On Wednesday the field was credited with a production of 8,200 bbls., but the average for the week is lower.

The grand total for the Gulf Coast pools and Southwest fields is 155,289 bbls., compared with 152,146 bbls. last week, or an increase of 3,143 bbls. per day for the week.

Gross Production

The estimated daily average by districts is as follows:

District—	Barrels
Batson	1,495
Blue Ridge	1,260
Barber Hill	120
Big Creek	1,874
Dayton	48
Damon Mound	1,125
Edgerly (La.)	723
Goose Creek	9,485
Humble	4,673
Hull	26,665
Jennings (La.)	962
Lockport (La.)	205
Markham	85
Orange	13,455
Pierce Junction	620
Spindletop	1,279
Saratoga	1,610
Sour Lake	4,220
South Liberty	18,250
Vinton (La.)	5,765
Welsh-Anse La Bute (La.)	90
West Columbia	12,205
*Miscellaneous	880
Total	107,094

Southwest Fields

Luling	28,600
Laredo districts	4,240
Somerset	2,620
Calliham	315
Rockdale-Minerva	525
Jim Hogg County	4,720
Lockhart	7,175
Total	48,195
Grand total for week	155,289
Grand total last week	152,146
Increase	3,143

Dome at High Island

The Gulf company's well at High Island was choked down to 750 bbls. per day at the end of the week, flowing into open storage. The well came in before the strainer was set in a hard sand, not unlike the sand in the famous Abrams well of The Texas Co., on the north side of the West Columbia Pool. The depth is around 3,200 feet and the gravity about 26. It is a black oil, grading as B.

High Island, on the east end of the Galveston peninsula, south of Chambers County and southwest of Beaumont, has been the scene of exploration work for about 18 years. In fact the dome was known to Colonel Lucas, of Spindletop fame. The dome rises to an elevation of more than 40 feet out of the marshes, located about 2 miles back from the Gulf of Mexico. On account of its height it was a place of refuge for the inhabitants of that section during hurricanes that sweep the Gulf shores almost every year, the elevation offering a place of safety from the high tides. The Sun Oil Co. has spent about $1,000,000 in exploration work there. Its No. 1 Broussard flowed at the rate of 3,000 bbls. for a few hours through 8-inch casing and then turned to a water well. Its No. 6 Cade came in about a year ago making 500 bbls. and is now pumping 50 bbls. No. 4 Cade pumped 100 bbls. for a time but is dead now. No. 8 Cade is now drilling, located 2,000 feet west from the Gulf company's well. Small wells have been developed on the dome at the shallow depth of from 120 to 155 feet. Previous operations have been on the north, east and west sides of the elevation. Last year the Gulf company drilled No. 1 Smith on the south side, the first test to be made on that side, but abandoned the hole at 2,250 feet after fishing unsuccessfully for a lost bit. No. 2 Smith is located 200 yards south of No. 1 Smith. Over 25 tests have been drilled on and around the dome in the past.

The Republic Production Co., Yount-Lee Oil Co., Sun Oil Co. and Gulf have acquired additional acreage there. The locality was a summer resort at one time, with cottages on small lots, but the place was wiped out during a storm. It is estimated there are 2,000 lot owners, who are scattered all over the country. Many of them neglected to pay taxes and as a consequence litigation is anticipated, now that the lots have a value due to the Gulf company's well. A location has been made for No. 3 Smith.

Another Prospect

The Gulf Production Co.'s No. 4 Moore, located 7 miles northwest of Rosenburg, Fort Bend County, is bailing at 1,136-50 feet and shows for a 150-bbl. well, 22 gravity oil. It is on a 10,000-acre pasture, which was first tested with the seismograph and showed recordings of a saline mass. The Gulf followed the seismograph with four formation tests, three of which were abandoned in gyp or salt around 1,100 feet. No. 4 is off what is supposed to be the dome. The Marland Oil Co. abandoned No. 2 Lockwood, off the Wisdom Dome, in the same county, in a water sand at 1,020 feet and is now drilling No. 1 Meier there below 900 feet, and rigging No. 1 Spencer. The Rycade Petroleum Co.'s No. 1 Meier is shut down waiting for a heavy rig. Its No. 1 Moore is rigging up to start drilling. No. 1 Nash is below 4,100 feet.

At Big Hill, in Jefferson County, north of High Island, the Houston Oil Co.'s No. 10 Pipkin is around 3,010 feet, and No. 2 Sun-Davis around 1,476 feet. The Paggi Oil Co.'s No. 2 Wilson, south of China, is below 2,400 feet.

In Harris County, the Rycade Petroleum Co.'s No. 1 Rosenthal, east of Green Bayou, is drilling below 2,275 feet. A sand showing some oil at 2,200 feet was passed up. Katter and others are drilling west of Humble with a location made for No. 2. The Kane Production Co. has started No. 3, north of the Humble Pool. The test at Seabrook is shut down and the La Porte Oil Co.'s No. 1 Gaines, near La Porte, is drilling deeper at 2,700 feet. At Hockley Dome, The Texas Co.'s No. 1 Warren is below 3,765 feet, and No. 3 Warren is drilling at 1,770 feet.

In Chambers County, C. T. Tucker's No. 1 Fisher is below 2,200 feet. It is about 3 miles east of Cedar Bayou.

At Boling Dome, in Wharton County, the Gulf company's No. 3 Felder is below 4,255 feet and The Texas Co.'s No. 1 Taylor around 1,700 feet. The formations in this test are considered favorable.

In Brazoria County, Boyd and others' No. 1 Russell is at 1,455 feet and the Bryan Production Co.'s No. 1 Chester is around 3,716 feet. Lessors are working in the territory south of Liverpool on both sides of Chocolate Bayou.

In Matagorda County, the Marland Oil Co.'s No. 1 Dwyer at Shepherd Dome, is below 5,455 feet and the Shepherd Dome Oil Co.'s No. 1 Hawkins is around 1,-455 feet.

The Empire Gas & Fuel Co. abandoned No. 1 United Land Co. acreage in Ascension Parish, Louisiana, on the east side of the Mississippi River, at 4,050 feet. The log recorded slight traces of oil in a sand between 1,200 and 1,300 feet and again between 1,500 and 1,600 feet. The derrick was skidded over 24 feet to the west of the first test and a second hole drilled to 1,290 feet, which was abandoned in salt water. The company has surrendered its lease on a big block of land there. No evidences of a dome were found, the log showing neither gyp nor rock salt. Not many tests have been drilled on the east side of the Mississippi River and such as have been made do not check up geologically with those drilled on the west side.

In Camerou Parish, the Yount-Lee Oil Co. is drilling No. 4 at Hackberry Island, on school land. In the Jeff Davis Parish the same company is drilling No. 5 Irvine.

In Calcasieu Parish, the Marland Oil Co. quit No. 1 United States Government land at 4,870 feet, located about 1 mile south of production in the Lockport district, near Lake Charles.

Operations in the Pools

The Barnsdall Oil Co. is entering the coastal territory and has a location for a test on the northwest side of the dome, Markham Pool, Matagorda County. The test will be drilled to 4,150 feet, by W. M. Mitchell, one of the oldest and most successful contractors in the Texas fields. The Rycade Petroleum Co. abandoned No. 2 Gray there at 4,242 feet in weak salt. Nine-inch casing was set at 3,[illegible] feet and 6⅝-inch at 3,365 feet.

H. R. Cullen is bailing No. 6 Howe at Pierce Junction at 3,940 feet. The Rio Bravo Oil Co. has made a location for No. 1 Settegast. Snowden & McSweeney's No. 8 Cain is sidertacking and the Texas Exploration Co.'s No. 7 Dooley is deepening at 3,765 feet.

South Liberty

No extensions of consequence marked the week's activities in the South Liberty Pool. The Gulf Production Co. finished No. 1 Antonio with 60 feet of strainer set at 3,580 feet and it came in flowing 1,800 bbls. initially. No. 1 Williams is pumping 125 bbls. at 3,550 feet and No. 3 Schade flowing 650 bbls. initial at 3,530 feet. No. 5 Schade is a 300-bbl. well at 3,640 feet. The Gulf company's No. 1 Richardson is a 400-bbl. well at 3,427 feet with 100 feet of screen set. The Humble Oil & Refining Co. got salt water in No. 2-B Pickett at 4,205 feet. The Texas Co.'s No. 1 Simms fee, a late in the week completion, came in flowing 1,000 bbls. at 3,620 feet with 100 feet of strainer set. The Monarch Oil & Refining Co.'s No. 5 Harrison (Peer Oil) came in flowing 1,800 bbls. at 3,450 feet, with 80 feet of strainer in the hole. Abercrombie Oil Co.'s No. 1 Harrison was abandoned, No. 2 is making 400 bbls. at 3,590 feet and No. 3 Harrison came in flowing 1,800 bbls. at 3,550 feet. The Vacuum Oil Co.'s No. 9 Barrett is a 700-bbl. producer at 3,460 feet with 100 feet of screen set. The Sun Oil Co.'s No. 4 Schade is flowing 700 bbls. at 3,675 feet, 15 per cent water. No. 5 is bailing at 3,575 feet and No. 7 was abandoned in salt water at 3,550 feet. No. 9 is swabbing at 3,550 feet. The Texas Co. abandoned No. 4 Stahl. The Hofer Oil Co.'s No. 1 Pickett, a workover, is bailing at 3,625 feet. The Humble Oil & Refining Co.'s Nos. 4-B Pickett and 5-C Pickett are both showing oil at 3,610 and 3,670 feet respectively. Mills Bennett's No. 11 Pickett got salt water at 3,550 feet.

The status of some of the older completions is as follows: Humble Oil & Refining Co.'s No. 3-A Chambers making 300 bbls. at 3,540 feet, and No. 4 making 200 bbls. at 3,535 feet. No. 1-B Chambers is going on the beam at 3,600 feet. No. 2-B was abandoned at 4,625 feet. No. 2 Harrison-Pickett is going on the beam at 3,580 feet. No. 2-A Pickett is flowing 700 bbls. at 3,500 feet. The Oxford-Navarro Oil Co.'s joint Nos. 5 and 7 Harrison is rigging to pump.

There is a gradual decline in the number of wells drilling in the pool pending results from the Sinclair Oil & Gas Co.'s No. 1 Condut, 2,000 feet southeast of production, and the Humble Oil & Refining Co.'s No. 1 Mitchell, 1,800 feet northeast. The Associated Oil Co. is offsetting the Sinclair test with No. 1 Duessen and the Brownie Babbittee Oil Co. is doing the same with the Humble company, drilling No. 1 Mitchell.

Drilling Operations

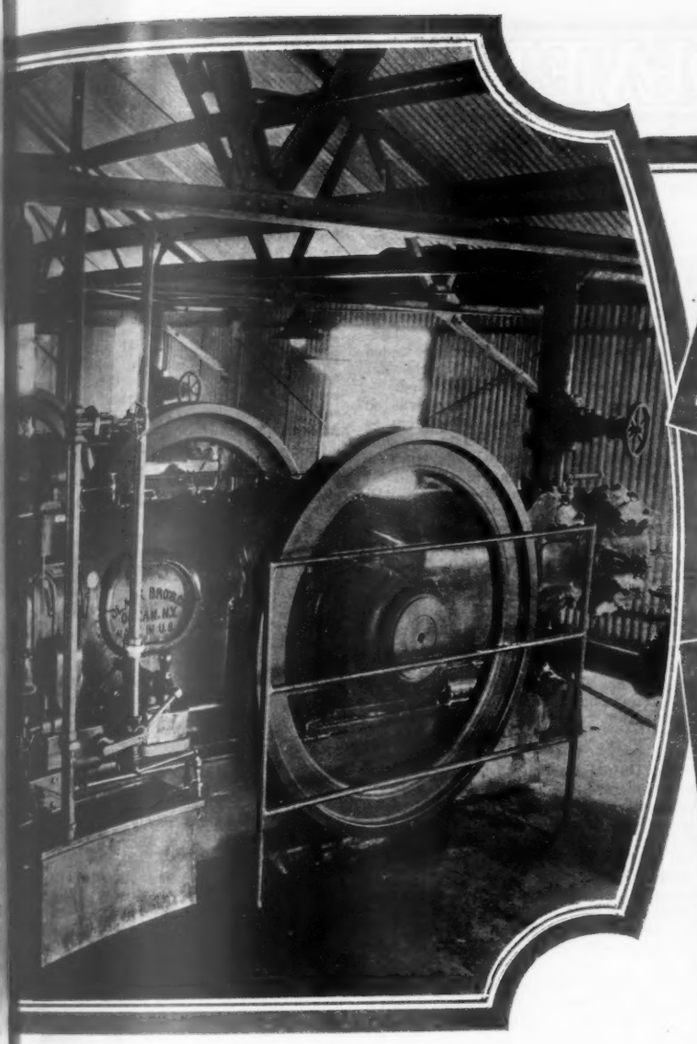
The Sinclair company's No. 1 Condut was erroneously reported last week as drilling at 3,855 feet. Instead, casing was set at 3,465 feet and the hole is now around 3,600 feet. The Humble company's No. 1 Mitchell is below 3,650 feet. The Associated Oil Co.'s No. 1 Duessen is below 3,585 feet.

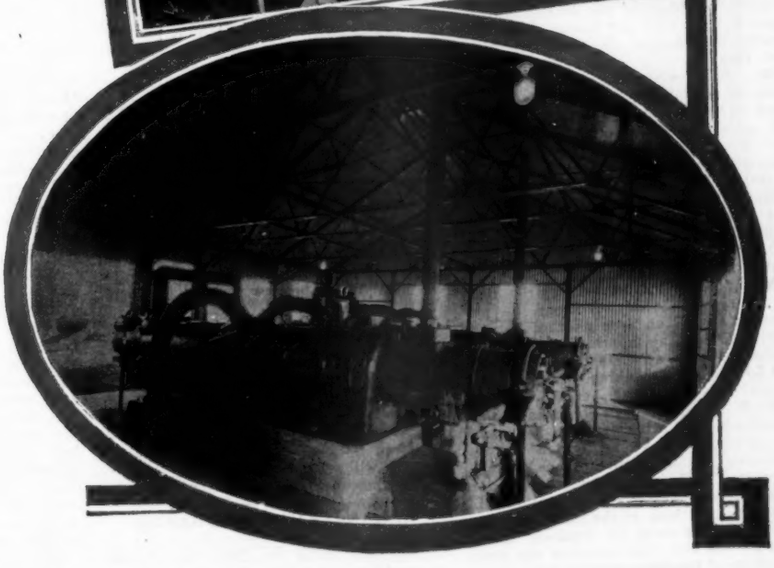
The Sun Oil Co. is drilling No. 6 Schade below 3,600 feet, with a location for No. 8 and drilling No. 10 at 3,345 feet.

The Gulf Production Co.'s No. 1 Dunsen is at 3,600 feet. No. 3 Hammam at 765 feet, No. 2 Richardson around 3,100 feet, with a derrick standing for No. 4. No. 3 is at 3,235 feet. No. 1 Schade is going on the beam at 3,650 feet. No. 6 Schade is drilling at 3,545 feet, and No. 7 at 3,615 feet. No. 8 is below 3,100 feet. No. 3 Williams is at 2,900 feet and No. 4 below 3,800 feet. A location has been made for No. 3 Orgain.

The Humble Oil & Refining Co.'s No. 5-C Chamber is drilling at 2,235 feet.

(Continued on Page 106)





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NATURAL GAS DEVELOPMENTS

Gas Lease Values Basis of Testimony In Pittsburgh Case

PITTSBURGH, Pa., May 18.—Chairman W. D. B. Ainey has adjourned until June 2 the taking of further testimony in the gas rate hearing before the Pennsylvania Public Service Commission in which the city of Pittsburgh is seeking to nullify increased charges to domestic consumers put into effect by the Peoples Natural Gas Co.

After the company has completed its case before the commission the Equitable Gas Co., which, like the Peoples, increased its domestic rate to 60 cents a thousand cubic feet a few months ago, will submit testimony. Then Special Counsel C. K. Robinson, in charge of public utility litigation for Pittsburgh, will present arguments designed to show that the new rates are excessive and should be abrogated.

Upon the outcome of these two cases depends the fate of increased rates adopted by virtually all the gas companies in this region, it having been agreed at the outset that Pittsburgh should make the fight for protesting municipalities. Similarly, it is recognized that the rates of the smaller gas companies must stand or fall with those of the two big companies operating in the Pittsburgh district.

In the two-day hearing just held here most of the time was devoted to testimony showing the valuation which reasonably may be placed on the gas. The company has in the ground; that is, on its leaseholds. Of the 344,000 acres which the company has under lease in seven western Pennsylvania counties 100,000 only are operated.

Three witnesses gave their opinions on this question of the value of the gas still in the ground—S. W. Meals, president of the Carnegie Gas Co.; T. B. Gregory, president of the Manufacturers Light & Heat Co., and George Whitmer, general manager of the American Natural Gas Co.

Mr. Meals valued the company's leaseholds at $7,000,000, which figure he arrived at by appraising the operated 100,000 acres at $60 an acre, or $6,000,000, and the unoperated territory which he described as "possible" gas territory, at $1,000,000, or less than $5 an acre.

Mr. Gregory appraised the operated and unoperated leaseholds together at $6,250,000; the operated acreage at $5,000,000, or $50 an acre, and the unoperated at $1,250,000.

Mr. Whitmer's appraisal was the highest of all. Like Mr. Gregory, he put a value of $50 an acre on the operated territory, but he appraised the unoperated roughly at $3,000,000, or about $11.50 an acre, making his total appraisal for the 344,000 acres $8,000,000.

Each of these men testified under questioning by attorneys that he would be pleased to take an option on the properties at the figures named in his appraisal. Chairman Ainey characterized the valuations as "hypothetical," but admitted them, at the same time, noting objections made by Attorney Robinson for the city, who attacked the qualifications of the three men as witnesses.

On resumption of the hearing next month the company will put in its valuation of tangible property—its wells, equipment, etc.

GAS FOR GOSHEN, IND.

TOLEDO, Ohio, May 18.—Goshen, Ind., will be connected with Elkhart by a gas pipe line 10½ miles long. Gas manufactured in the plant of the Calumet Gas & Electric Co. at Elkhart will be pumped to Goshen for distribution to the customers of the Interstate Public Service Co., which serves that city. Work of laying the pipe line will commence in a few days.

The Calumet Gas & Electric Co. will own and operate that part of the line extending 5½ miles east of Elkhart and the 5 miles of line west of Goshen will be owned and operated by the Interstate Public Service Co.

The Elkhart plant has a daily capacity of 1,290,000 feet of gas. The combined sales in Elkhart and Goshen average 850,000 feet daily.

TEXAS COMMISSION'S POWER QUESTIONED

AUSTIN, Tex., May 16.—The case of the Consolidated Gas Co. versus Railroad Commission of Texas will be argued May 25 before the District Court of Travis County. It involves questions of prime importance to the Railroad Commission in enforcement of the conservation law of the State, the same question raised in the Denison gas case, long pending in the Supreme Court, and more. The additional issues makes it of even greater importance to the oil and gas industry.

The case presents the validity of the statute under which the commission enforces the conservation laws, argument being made that the constitutional provision creating the commission restricts it to railroad rates and regulations and does not contemplate or permit it to perform other duties.

The Consolidated Gas case also involves conflicting acts of the chief oil and gas supervisor for the Railroad Commission and if the law is sustained that issue must be decided. When R. B. Walthall was chief supervisor he classed the company's well as an oil producer, which gave it the right to produce casinghead gasoline. Later H. K. Bell, as chief supervisor, reversed this holding and ruled it was a gas well. Under the law the gas well could not be used to produce casinghead gasoline. That is the basis of the company's attack on the law. It claims that even if the law is valid the commission is estopped from complaining in view of Walthall's classification.

TO SURVEY GAS LINE FROM WASKOM TO PARIS

PARIS, Tex., May 16—The Mayor of City Council of Paris have awarded a contract to Burt C. Blanton, consulting industrial engineer of Dallas, to prepare a complete scientific survey and reports on a proposed natural gas pipe line to serve Paris and intermediate points in Northeast Texas, the projected line to be built from the new natural gas field at Waskom, Tex.

"The city of Paris has been considering such a project for several months," Mayor T. F. Justiss said, "and if Mr. Blanton's report shows that such an enterprise is feasible and will warrant a satisfactory return on the capital investment, the city will endeavor to successfully consummate the pipe line, which will prove a factor in Paris' growth as an industrial center."

ARKANSAS NATURAL GAS CO.

PITTSBURGH Pa., May 16.—At the annual meeting of the Arkansas Natural Gas Co., the old board of directors was re-elected with the exception of F. B. Parriott, resigned, and succeeded by J. L. Kirkland, of Wheeling, W. Va. The only change in the official personnel of officers was the election of E. J. Cole, comptroller, a former vice president. The statement of the Arkansas Natural Gas Co. and the Arkansas Fuel Oil Co., gross income of $1,356,750,19 and gross expense, for the quarter ending March 31, 1925, $657,680.60. Net income from operations, $699,069.59; deduction from net income, $54,126.06, leaving surplus for the first quarter, $644,943.53.

WOULD TURN WASTE GAS INTO OIL WELLS

NEW ORLEANS, La., May 18.—Conservation Commissioner W. J. Everett announced that experiments were being considered to utilize the 12,000,000 feet of gas that is being wasted daily at the No. 43 Dillon well in Caddo Parish that is supplying a number of Arkansas cities with natural gas. He added there was no foundation for reports that their gas supply would be stopped.

Mr. Everett said the pressure was so great that it was almost impossible to control it, and that the waste can not be stopped. It is planned to turn this waste into poorly producing gas and oil wells in the vicinity in the hope it will either be stored in the earth or unloosen fresh gas or oil deposits.

NORTHEASTERN UTAH TALKS CARBON PLANTS

The entrance of the Humphreys Corporation upon exploratory work in northeastern Utah, where two of its geologists are making a final check on the structures, is emphasized because of the recent organization of the United Carbon Co., with Col. A. E. Humphreys an important factor.

The United Carbon Co., organized recently, elected the following officers: C. A. Barbour, president, Houston, Texas; Oscar Nelson, vice president, Charleston, W. Va.; T. A. Wheelan, treasurer, Weston, W. Va.; G. A. Williams, secretary, Clarksburg, W. Va. This company is a consolidation of 15 carbon black manufacturers, of which the Humphreys Carbon Co., owned by Col. A. E. Humphreys and associates, of Denver, was the third largest.

Nine of the directors have been decided upon, as follows: A. E. Humphreys, C. A. Barbour, Oscar Nelson, T. A. Whelan and G. A. Williams; E. L. Bartley, C. E. Slagle and George Weeks, of Monroe, La., and Lynn S. Horner, of Clarksburg, W. Va.

The greater part of this company's carbon black production comes from the Monroe Field of Louisiana, in Union, Morehouse and Ouachita Parishes. The entry of the Humphreys Corp., into northeastern Utah for exploratory work is significant in Denver. Eastern Utah and western Colorado have already been proved to be gas reservoirs, but exploration is being carried forward persistently in the hope that these gas fields may lead to the discovery of commercial oil.

With the exception of the Moffat Dome, and to a lesser degree Iles, Tow Creek and Rangely (the latter also a considerable gas producer), commercial oil has not been discovered in this region; and Marapos, White River, Carbonera, Cisco and Vernal, so far as present discoveries have proved, remain gas reservoirs only.

It is understood that in the new test just starting on the Hiawatha or Vermillion Creek structure, gas has been considered in the past as a more likely discovery than oil, and that a few years ago a project was on foot to drill this structure and pipe the gas, if discovered, to Salt Lake City.

This is a sparsely settled region within a 125-mile circle, in which gas exclusively has been discovered, except at Moffat, Iles, Rangely and Tow Creek. In this circle Rangely is at the center, White River is midway on a radius, and Marapos, Carbonera, Cisco, Vernal and Vermillion Creek are at or near the circumference. N. Walter Dixon, of Denver, already is manufacturing a small amount of carbon black in that region.

The gas output at present is unmarketable and industrial development for a long time does not promise a more profitable market that might inhibit its use for carbon black. Denver and Salt Lake City are the nearest large cities, with Grand Junction probably the only nearby city whose consuming capacity would warrant a pipe line. In this situation the wastage in burning natural gas for making carbon black, it is argued, could not be criticised.

Colonel Humphreys has been in Charleston, W. Va., and expects to go to northeastern Utah about May 15 and take personal charge of the locating and the spudding of the initial well for the Humphreys Corp., which holds 20,000 acres in three main tracts, 6 to 10 miles east and northeast of Vernal. The most southerly of these is 10 miles north of Midwest Refining's big gasser.

GAS COMPANY HELD FOR WELL EXPLOSION

CHATHAM, Ont., May 13.—A judicial decision bearing on the responsibility of a natural gas company has been rendered by Mr. Justice Ives of Calgary in the damage suit of Stinson V Canadian Western Natural Gas, Heat, Light & Power Co. of Calgary. The company, after completing a well in the Foremost Field of Southern Alberta closed it down and erected a building over it. The two Stinson boys, the eldest 13 years of age, were sent by their mother to bring in the cattle, and, missing a young calf, searched for it in the building over the gas well. They lighted a match to look in the cellar, and an explosion at once occured, in which the building was wrecked and both boys suffered serious injuries.

The plaintiff, Stinson, alleged that the door was improperly fastened and that there was no fence between the half-acre of gas company land and the public highway.

Justice Ives found that the accident occured through the negligence of the company, and gave justment in favor of the father for $637.25, in favor of Bertram Stinson for $3,000 and in favor of Harry Stinson for $1,500, with costs.

AWARDED THE CONTRACT FOR NATURAL GAS LINE

HOUSTON, Tex., May 18—The Houston Pipe Line Co. has awarded the contract to Edwin MacPherson of Fort Worth for the construction of a gas line from Live Oak County to Edna, Texas, and for a branch line from Edna to Gulf, Tex., to supply the Texas-Gulf Sulphur Co. with natural gas, with whom it has a 5-year contract for its fuel requirements, and the line will be completed and in operation by September 1.

The line will consist of 96 miles of 16-inch and 18-inch main line, and 54 miles of 12¾-inch branch line. The cost of construction is approximately $3,000,000 and the line will have an estimated capacity of 80,000,000 feet.

As soon as this work is well under way the line will be continued into Houston and completed as soon as possible.

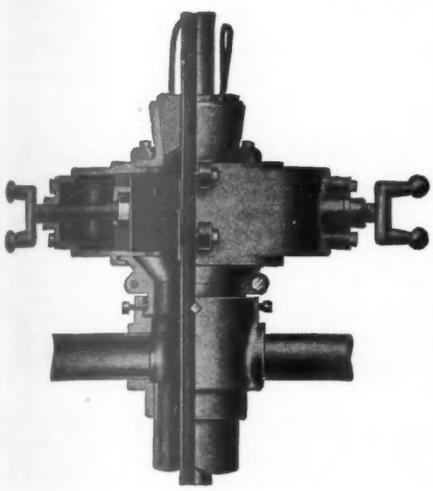
C. B. McKinney, formerly president of the Municipal Gas Co. of Dallas, has severed his connection with that company and has become general manager of the Houston Pipe Line Co.

GAS AND ELECTRIC MEETING

President G. M. Johnson has announced that the annual convention of the Indiana Gas Association, which has been formerly held in May, will be held this year during September. An attempt is being made to make it possible for men connected with both gas and electric properties to attend the meetings of the Indiana Electric Light Association, Great Lakes Section of the National Electric Light Association and the Indiana Gas Association.

HOW TO PACK A FLOWING WELL

First:-



Place a GUIBERSON TUBING OIL SAVER on the Casing Head

This will prevent loss of oil while running the tubing and packer.

The rubbers will permit passage of tubing collars without escape of oil. Saver also permits the passage of packer, it simply being necessary to withdraw rubbers into their recesses.

All parts of the Saver are made in two sections, so that it can be placed around tubing at any time desired. Fully patented.

Second:-

Set a GUIBERSON CONTROL HEAD PACKER

Before running the tubing and packer a disc is placed in tubing between perforations and working barrel to prevent flow through tubing.

Tubing, bearing packer, is then run in through the Oil Saver, Packer being in open position, Figure 1. Little resistance is encountered as the construction of Packer permits a heavy flow of oil and gas between Packer and tubing, and out through apertures in casing head.

When the Packer reaches a position 12 to 18 inches above the point at which it is desired to pack, tubing is given a half turn to left, disengaging the hooks on the cage. Friction springs then hold the cage stationary, and packer is lowered until slips engage casing wall, when the weight of tubing will at once compress the spring, close the top valve, and set the Packer.

The valve can be opened without moving the shell, at any time, by simply lifting the tubing a few inches.

After Packer is set a weight is dropped down the tubing to break the disc and establish flow through the tubing. Fully patented.

Fig. 1. Open

Fig. 2. Set

"Better Be Safe Than Sorry"

THE GUIBERSON CORPORATION
Box 1106, Dallas, Texas

CALIFORNIA BRANCH: 1506 Santa Fe Av., Los Angeles

402 W. First St., TULSA

318 First Nat'l Bank Bldg., HOUSTON

506 Trust Bldg., NEWARK, O.

293

GUIBERSON

BETTER BE SAFE THAN SORRY

MEN KNOWN IN OILDOM

Charles I. O'Neill

Charles Irvin O'Neill, secretary of the Okmulgee District Oil and Gas Association, was born in Ontario County, New York, in May, 1884. He was educated at Canandaigua Academy, Canandaigua, N. Y., and at Dartmouth College, Hanover, N. H.

Few associations in the United States procure as much good publicity as does the Okmulgee District Oil and Gas Association, and a reason for this may be seen in the extensive newspaper training which Mr. O'Neill has enjoyed. He began his newspaper work in Canandaigua in 1905 and was a member of the advertising staff of the International Correspondence Schools in New York in 1909 and 1910. His work broadened in 1911 and 1912 when he was advertising representative of the National Press Association through northern and northwestern States and California.

Mr. O'Neill was on the news staff of the Boston American in 1913, and represented eastern newspapers and news associations at Worcester, Mass., in 1914 and 1915. He was city editor of the Morning Herald of Gloversville, N. Y., in 1916, and was made oil editor of the Daily Democrat of Okmulgee, Okla., in 1917, holding that position until November, 1919, when he became publicity director of the Okmulgee Chamber of Commerce. He was made secretary of the Okmulgee District Oil and Gas Association November 1, 1921.

PERSONAL PARAGRAPHS

Edwin C. Ruff left El Dorado, Ark., for Evansville, Ind.

* * *

John S. Taylor left Green River, Wyo., for Wichita Falls, Tex.

* * *

Fred Webb has returned to Petrolia, Ont., after three years in the Colombia oil fields.

* * *

W. P. Simmons, co-partner of E. M. Treat, is in New Mexico looking over his various interests.

* * *

M. G. Ensinger of the American Cable Company is making a business trip through the Gulf Coast fields.

* * *

H. M. Lowman has returned to Bowling Green, Ky., after spending several months in the Mid-Continent Field.

* * *

At the annual meeting of Chesebrough Manufacturing Company, Cons., Hunter S. Marston was elected a director to succeed John Lunny, Jr. Other directors were reelected. Subsequently directors reelected officers.

* * *

Mr. and Mrs. John Sutherland, who have been in Peru for the past six years, have returned to Oil Springs, Ont.

* * *

Harry Norris, chief scout of the Prairie Oil & Gas Company, has just returned from an inspection trip of the Smackover Field.

* * *

George C. Christman, president of the Jackson County Oil & Gas Company, of Napoleon, Mich., was a Toledo, Ohio, visitor.

* * *

Fred Carson of Lexington, Ky., is in Owensboro, Ky., where he will make his headquarters while drilling several wells in that field.

* * *

Walter H. Wheatley, manager of the Southwestern Engineering & Mapping Company, of Okmulgee, Okla., was a Tulsa visitor last week.

* * *

Joe T. King, president of the Kingwood Oil Company, and C. L. McMahon, independent oil operator, spent two days in Tulsa last week.

* * *

Allen T. Towl, New York, vice president and general manager of the Southern Group of Pipe Lines, visited Pittsburgh last week.

* * *

J. W. Vandergrit, Lancaster, Pa., general manager of the Southern Pipe Line Company, was a business visitor in Pittsburgh last week.

* * *

John R. Manion, president, and J. F. Blake, general superintendent, of the Sinclair Pipe Line Company, of Tulsa, were in Casper recently.

* * *

At annual meeting of Pierce Oil Company, Samuel Untermyer, S. C. Munoz and Richard Sutro were elected additional directors. Other directors were reelected.

* * *

C. R. Burton, an Oil City boy, who has been with the Sinclair Pipe Line Company in the Oklahoma fields, was a recent visitor in Houston, enroute to Shreveport, La.

* * *

C. Bert Sage, well known Toledo, Ohio, operator, is making preparations to do some drilling test work in the Tinsley's Bottom area in Clay and Jackson Counties, Tennessee.

* * *

L. E. McCune of Kansas City, district manager for the Murray Rubber Company, was in Casper several days the past week. The home offices of the company are at Trenton, N. Y.

* * *

E. V. Fowler and Charles A. Andrus have returned to Bowling Green, Ky., after making a survey of conditions in the Ohio, Hancock and Daviess County oil fields in northern Kentucky.

* * *

J. R. Munce, president of the Arkansas Natural Gas Company, has returned to the home office, Pittsburgh, Pa., after making a tour of the company's properties in Texas and Arkansas.

* * *

F. E. Powell, chairman of the Anglo-American Oil Company, sailing on the Berengaria for a business trip to Europe, said: "The oil outlook is very encouraging. Prices appear to be stable at producing centers."

* * *

P. R. Melchert has been appointed assistant district sales manager of the Standard Oil Company of California's Los Angeles agency, succeeding S. S. Chadderton, who has been transferred to the home office in San Francisco.

* * *

Harold Lockhart, assistant to the president of the Parkersburg Rig & Reel Company, and James Crawford, of Tulsa, have been swinging around the Texas oil fields, visiting the Gulf Coast district before going to Smackover.

* * *

C. H. Keyes of the Keyes Oil Corporation is in Scottsville, Ky., in interest of his company. Since his arrival he has staked off several locations in the Allen County Field and has purchased several leases in the Owensboro district.

* * *

Officials of the Frick-Reid Supply Company arrived in Shreveport recently on their annual tour of inspection. The party included W. E. Frick of Pittsburgh, and John Reid of Oil City, Pa., of the Joseph Reid Gas Engine Company.

* * *

C. B. Reynolds has returned to Cookeville, Tenn., after a short business trip to Pittsburgh, Pa. Mr. Reynolds was accompanied by D. E. Foster, of the Central Producing & Refining Company, and W. Roy Hogan of the Hogan Oil Company.

* * *

F. D. Wood, president; R. C. Snyder, vice president and general manager; T. H. Kennedy, treasurer, and H. B. Wood, assistant general manager, of the Wood Oil Company, are making a general survey of the company's holdings in Kentucky.

* * *

George Baldwin, until recently representative of the Henry H. Cross Company, in Detroit, is now one of the proprietors of the Fuel Oil Company of that city. He has been in Chicago with D. R. Mitchell, president of the Fuel Oil Company, of Detroit.

* * *

Guy P. Slater, president of the Slater Brothers Turnbuckle Derrick Company with factory at Sand Springs, Okla., has gone to St. Louis in connection with the American Petroleum Institute's consideration of the standardization of drilling and pumping derricks.

* * *

C. E. Curtiss, vice president and general manager of the Bruce-Macbeth Engine Company, of Cleveland Ohio, is making a trip through the Mid-Continent Field. He stopped in Tulsa for a few days visit with J. B. Simer, district manager for the company.

* * *

Lyman C. Scott, of Toledo, for more than 35 years in the Trenton Rock fields of Ohio and Indiana, has secured an extensive acreage in the new Clay-Jackson County, Tennessee, Field, where Chicago interests have secured a number of fine shallow producers.

* * *

Hiland R. Smith, general manager for the Vedder Oil Company, of Pittsburgh, Pa., was a recent visitor at Bowling Green. He states that the Cumberland County Field is running approximately 1,400 barrels of crude oil daily, and that work is increasing quite rapidly.

* * *

A. F. Denniston, of the land department of the Magnolia Petroleum Company for the Gulf Coast and Southwest, who dates his entry into the oil industry back to the days of Pithole and Petroleum Centre in Pennsylvania, is at Marlin Springs, Tex., recuperating from an attack of influenza.

* * *

F. H. Bedford, Sr., a vice president of the Standard Oil Company of New Jersey, who sailed on the Berengaria, said: "I am very optimistic on the oil outlook. I am taking my annual business trip to London, Paris and Germany. We are doing an enormous business in Germany and I look for an increase. The situation is encouraging."

* * *

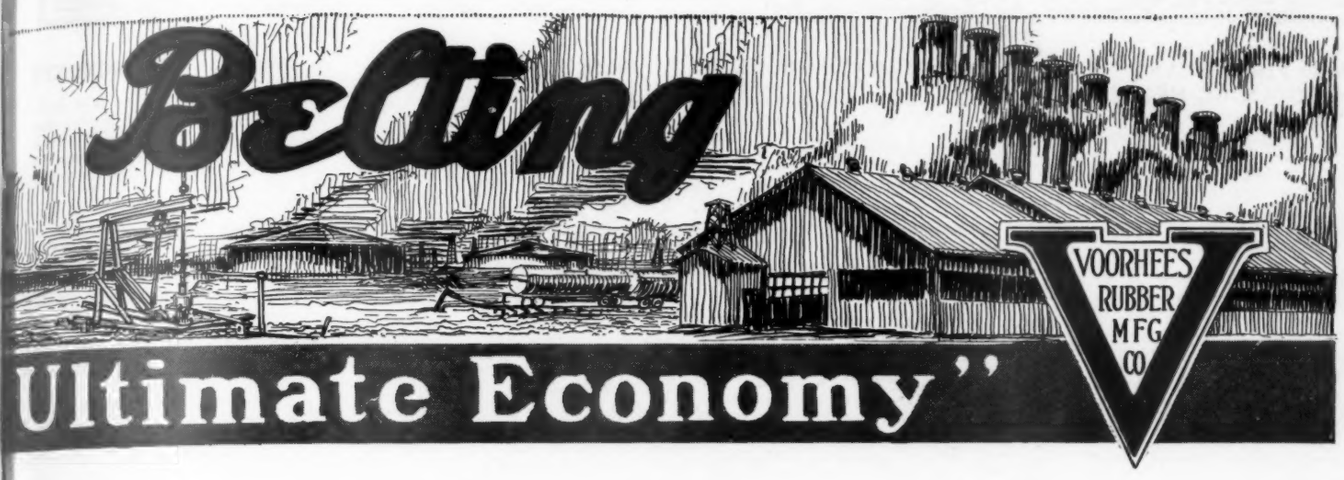
At a meeting of directors of the Crescent Pipe Line Company, L. E. Lockwood, formerly vice president, was elected president, succeeding Charles Schumaker, and C. T. Vandergrift was elected vice president, J. A. Toomey, reelected secretary and treasurer. At the annual meeting of stockholders C. T. Vandergrift was elected a director succeeding Charles Schumacker.

* * *

L. F. Sontag, general superintendent of the Continental field work in the Casper region, resigned May 1 and is enjoying a much needed rest. Lou, as he is known throughout this part of the country, came here when the Cosden interests started work in the Crystal Creek Field, and has been field superintendent for the Cosden, Frantz, Mutual and Continental firms without a break.

* * *

Charles E. Fisher, consulting engineer, of New York City, has withdrawn as consulting engineer to the Insurance Service Company of Oklahoma City, Okla., effective May 20. Mr. Fisher has been identified with fire protection engineering for more than 25 years, the larger part of which time he has been associated with the petroleum industry in fire protection engineering on oil properties.



han One Reason

Belt Is the Best

elastic and firm in its hold that ply separation is almost unknown.

SENSATION Belt is stronger, more flexible, stands the weather better and, of course, outlasts ordinary belts.

For low service, SENSATION Belt is unequalled. Try it at once and you will be convinced. It is sold in the Mid-Continent Oil Fields by the Bridgeport Branches as follows:

Wichita, Kans.
Russell, Kans.
Gorham, Kans.
Eldorado, Kans.
Winfield, Kans.
Tulsa, Okla.
DePew, Okla.
Stroud, Okla.
Wetumka, Okla.
Shidler, Okla.
Tonkawa, Okla.
Garber, Okla.
Pawnee, Okla.
Panhandle, Tex.
Ranger, Tex.
Breckenridge, Tex.
Marietta, Ohio.

THE BRIDGEPORT MACHINE COMPANY

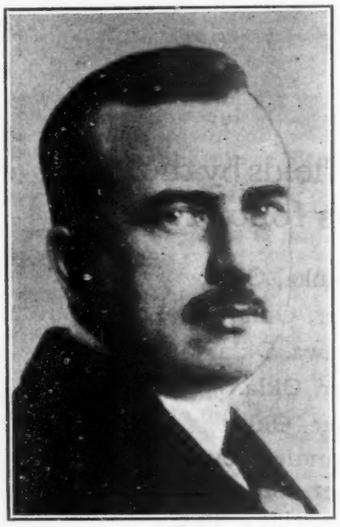
General Offices & Works WICHITA, KANSAS

EQUIPMENT AND SUPPLIES

DESIGNED FIRST PLANT FOR PRODUCING HELIUM

W. F. Barrett received the honorary degree of Doctor of Science from the University of Pittsburgh, at the recent Charter Day Exercises, in recognition of his achievements in the production and commercialization of industrial gases.

Mr. Barrett, shortly after graduation from Sheffield Scientific School, Yale University, entered the employ of the Peoples Gas, Light & Coke Co., Chicago, and during the next 10 years worked his way up through the production and distribution departments to the position of assistant general superintendent and assistant chief engineer. In 1913 he accepted the position as works manager and chief engineer of the Linde Air Products Co. At that time the consumption of oxygen for cutting and welding was of modest proportions. Mr. Barrett recognized the possibilities of the oxy-acetylene process and has been an important factor in directing its development, until at the present time its applications are found in every industry and walk in life where metals are used. Mr. Barrett is now vice president and director of the Linde Air Products Co., president of the Dominion Oxygen Co., Ltd., vice president and director of the Prest-O-Lite Co., Inc.,



W. F. Barrett

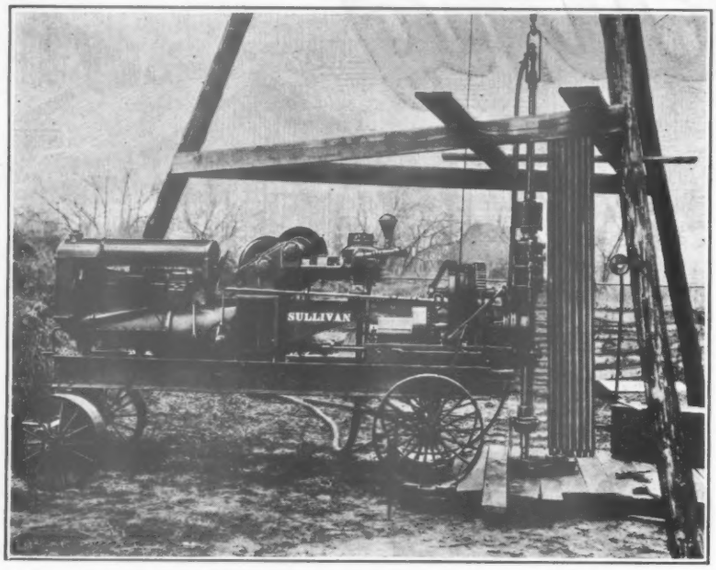
and a director of the National Carbon Co., Inc., all companies affiliated together in the Union Carbide & Carbon Corp.

The Linde Air Products Co., together with other subsidiaries of Union Carbide & Carbon Corp., entered a large program of construction during the war, to enable them to supply essential commodities. Mr. Barrett was active in the direction of this work and served on special Government committees on gases for all purposes, offensive and defensive. Perhaps his most important Government work was the design, construction and operation of the first and only successful plant producing helium, the noncombustible gas for dirigibles and balloons.

BOOKLET ON COOLING WATER

The Edward Burhorn Co. of New York City has issued a booklet on the subjet of cooling water. It explains the various methods employed by ice manufacturers, refineries, gasoline plants, and other industries using large quantities of water. The booklet advocates the use of the cooling tower in preference to the spray pond, and portrays the unusual conditions met in erecting cooling towers.

NEW SULLIVAN DIAMOND DRILL SPEEDS UP TESTING



Oil field geologists and engineers during the past three or four years, have become well acquainted with the Sullivan diamond core drills. These machines have been in use by a considerable number of the larger companies, particularly in the Mid-Continent Field, where their drilling speed, accuracy and reliability of results and their ease in handling from place to place have made many friends. Diamond drilling to block out acreage has proved not only astonishingly exact but economical of time and money, compared with older methods. Instances might be given in considerable number of new territories which have been opened up by some of the largest companies by this method.

The drills which have been favored for this work are the Sullivan "N" and "CN" machines, operated by steam boilers, and capable of removing 2-inch core to depths of 1,000 to 2,500 feet.

The accompanying illustration shows a type of diamond drill rig which the Sullivan Machinery Co. is offering for structure testing work which, it is claimed, possesses the following advantages experience has shown to be desirable in a rig of this sort. (1) portability, (2) economy of water, (3) economy and ease of transportation and fuel.

To make the diamond drill as easily moved from place to place as possible, this new rig, which is known as the Sullivan "CN" mounted diamond drill with gas engine drive, is mounted on one end of a substantial steel truck equipped with large diameter wide face steel wheels. At the other end of the truck is mounted the engine from a Fordson tractor, forming a substantial, compact and complete little power plant which operates the drill through a telescopic shaft in the bed of the truck.

The third member of the unit is a duplex double acting high pressure pump which is used to supply wash water to the drill hole, and for the hydraulic cylinder.

The drill is the standard Sullivan CN machine with single hydraulic cylinder, and fittings which bore a hole 2 13-16 inches in diameter, and which removes a 2-inch core, the standard size for structure drilling work. The regular engine with which ordinary drills are equipped has been removed, and both the drilling and hoisting operations are powered through the telescopic shaft referred to from a Ford engine. When the drilling operation is interrupted to hoist rods or to set casing, the rods are held in the safety clamp in the usual manner, and the drill is run back on its sliding ways. The standard Sullivan hoisting drum with which these machines are equipped, has internal gears which provide different speeds, and is of ample capacity to take care of stand piping, drive piping or setting casing.

This outfit can be hauled by a tractor or a team of horses over country roads or rough territory, such as is frequently encountered in oil field prospecting. It is a thoroughly substantial, strongly built rig.

The absence of a steam boiler cuts down the supply of water required one-third at least. This is an important factor in countries where water must be hauled any considerable distance to the machine.

The third element, that of fuel, is also an important factor. The Ford engine starts on gasoline, but runs on kerosene, which of course is easily obtainable, and much easier to haul to the outfit than coal or wood.

TRIP SLIP SOCKET IS PLACED ON THE MARKET

The Oklahoma Iron Works has put on the market a new departure in slip sockets, called the Bullum Trip Slip Socket.

It can be fitted to any style socket and used with any style slips. One of the principal features of the new attachment is that the hold of the slips can be released if the tools cannot be jarred loose.

A block of wood is placed between the upper part of the slips holding the slips apart until the block is knocked out by the top of the tools, then the pressure of the coil spring forces the slips down over the tools securing the hold. The Oklahoma Iron Works claims that the hold will not be released by jarring up on the tools, as the pressure of the coil spring holds the slips in proper place. The hold can be released by lowering the socket until trips engage trip ring, and the socket can then be withdrawn from the hole.

CHICAGO OFFICES MOVED

The Chicago offices of the Butler Manufacturing Co., makers of Butler bolted tanks, ready made steel buildings, underground tanks, storage tanks, cans, funnels, buckets and measuring pumps, have been moved from 1221 First National Bank Building to 1218 First National Bank Building.

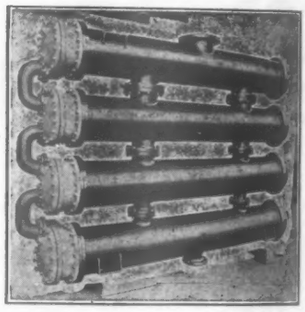
A TWO-IN-ONE CONDENSER

The apparatus illustrated is of particular interest to casinghead gasoline manufacturers because a single unit can be used either as a gasoline condenser or as a knockout box or fractionating control section.

When used as a condenser, the vapor enters the top shell, impinging on the bank of tubes through which water or oil is flowing, then passing downward through successive sections until condensation is complete, the distillate leaving the bottom of the lowest section.

When used as a knockout box or fractionating tower control section, the vapor enters at the bottom of the lowest shell, and passes upwards through the tube bundle, leaving at the top. The sectional design makes the apparatus particularly well adapted for this purpose, since it can be so piped that mineral seal oil or other oil flows through the tubes in the lower section, while water is used in the tubes of the upper section, resulting in very close control of the end points, specially where temperature regulators are installed.

The sectional construction which permits using any number of sections as desired, besides increasing the adapta-



bility of this condenser, also makes it extremely flexible in capacity, very easy to transport and erect, unusually compact and efficient. Further information can be obtained by addressing the Griscom-Russell Co., 90 West Street, New York.

OCECO HAS NEW LINE

The Oil Conservation Engineering Co., of Cleveland, Ohio, has placed upon the market a new and improved line of safety tank winches.

These winches are equipped with the worm gear which has proved to be so popular on the old Oceco winches, and they combine many splendid points. The worm gear is located on the side of the tank close to the ground, and eliminates the trouble of the operator climbing on wet and slippery tank roofs. The construction of the worm gear imposes an additional factor of safety and should prevent the regular quota of broken arms, due to flying cranks, when occasionally the winch gets away from the operator.

The possible damage to the tank bottoms caused by falling swing lines in accidents of this character is also reduced to a minimum. When the crank handle is removed, the winch is tamper proof, and is securely locked, the angle of the driving gear holding the driven gear in absolute position, preventing any meddling with the winch. The new winches are made in three sizes, the smallest size for handling up to 6 inches in diameter, the second size for handling swing lines up to 10 inches in diameter, and the largest size a heavy duty winch designed for handling swing lines 42 inches in diameter and larger. The largest size is a two-speed winch which handles on low gear a load of 5,000 pounds with only a pull of 60 pounds on the crank.

Oil Field Supplies And Complete Field Equipment

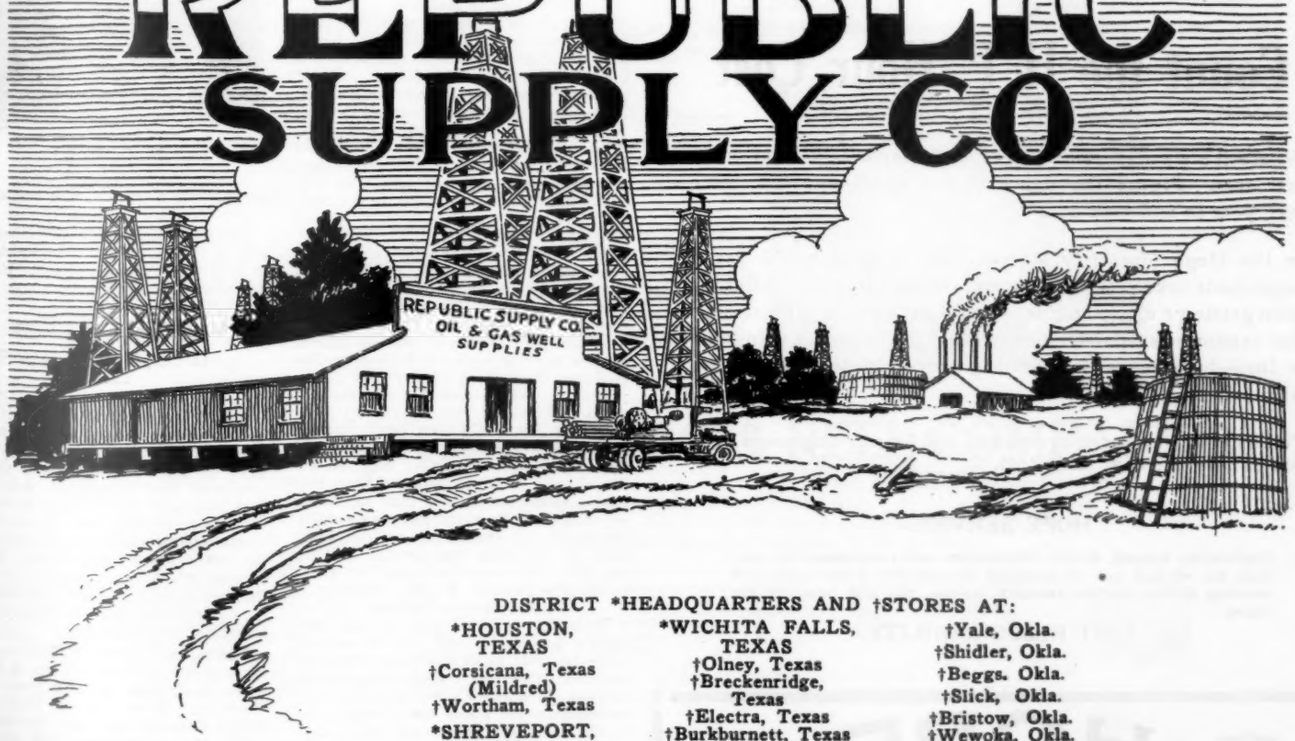
Both Rotary and Cable

Including:

Republic Iron & Steel Co.'s Tubing, Casing, Drive and Line Pipe.
Standard Seamless Tube Co.'s Seamless Upset Rotary Drill Pipe and Casing.
American Well & Prospecting Co.'s "Gumbo Buster" Rotary Equipment.
Jones' Acme Sucker Rods, and Gas Engines.
American Steel & Wire Co.'s and Broderick & Bascom's Wire Rope.
Hughes Tool Co.'s Hughes Rock Bits, Hughes Disc Bits, and Hughes "Acme" Tool Joints.
Bovaird & Seyfang Oil Field Boilers.
Wall (Walk Laid) Bull Ropes and Manila Cables.
Rhodes Master Packing.

In Stock Always

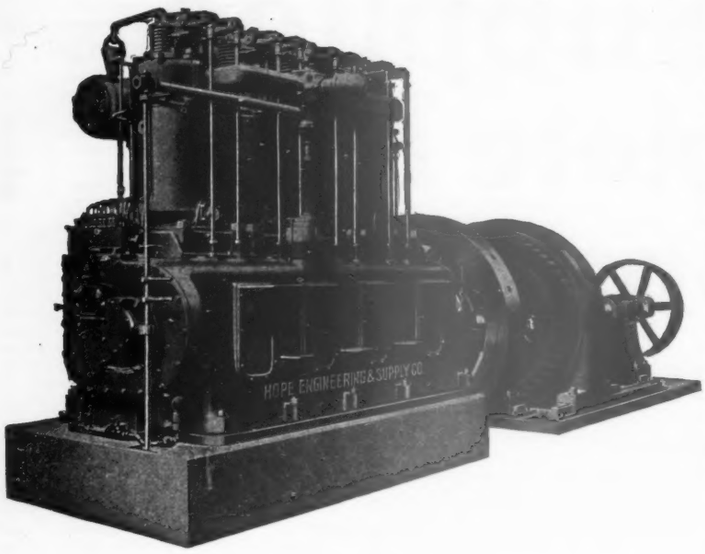
REPUBLIC SUPPLY CO



DISTRICT *HEADQUARTERS AND †STORES AT:

*HOUSTON, TEXAS	*WICHITA FALLS, TEXAS	†Yale, Okla.
†Corsicana, Texas (Mildred)	†Olney, Texas	†Shidler, Okla.
†Wortham, Texas	†Breckenridge, Texas	†Beggs. Okla.
*SHREVEPORT, LA.	†Electra, Texas	†Slick, Okla.
†El Dorado, Ark.	†Burkburnett, Texas	†Bristow, Okla.
†Smackover, Ark.	†Duncan, Okla.	†Wewoka, Okla.
	*TULSA, OKLA.	†Hominy, Okla.
	†Tonkawa, Okla.	†Okemah, Okla.
		†Wilson, Okla.

ENGINEERS & CONTRACTORS
IN NATURAL GAS AND OIL



HOPE
Vertical
Gas Engines

Count the H. P. Hour Cost

Where it's a question of power, look beyond the matter of first cost. Figure the day-after-day costs—the h.p. hour cost, year in and year out.

In the Hope (formerly Reeves) Gas Engine you'll get a dependable source of cheap power—which is vastly different from getting a cheap engine. You'll get an over-all economy that cannot be surpassed by any other prime mover using gas as fuel—together with operating characteristics to suit the most critical.

Tell us your power requirements—and let our engineers help you satisfy them, at least cost.

HOPE SERVICE

Engineering counsel, design, construction and contracting—in pipe lines for oil and gas, oil pumping stations, gas compressing and boosting plants, gasoline recovery systems, city and inter-city gas mains.

UNIT RESPONSIBILITY

HES-39

ENGINEERS CONTRACTORS
HOPE Engineering & Supply COMPANY
DESIGNERS MANUFACTURERS
MT. VERNON, OHIO, U. S. A.

STEEL READJUSTMENT COMPLETED; OUTPUT NOW UNDER CONSUMPTION

By B. E. V. Luty

PITTSBURGH, Pa., May 18.—The Houston Oil Co. has placed orders for 200 miles of pipe line with the National Tube Co. This, with some smaller orders' gives the National Tube Co. an operation of 75 to 80 per cent against operations among independent pipe mills ranging from 60 to 70 per cent.

PITTSBURGH, Pa., May 18.—It looks now as if the readjustment in the steel trade has been pretty nearly completed. On account of overbuying from four to six months ago there was excess production and shipments of steel in the first quarter of the year, and this had to be compensated.

Steel mill operations rose to a rate above 93 per cent of capacity in the fore part of March, and averaged about 91 per cent for the quarter. Since May 1 mill operations have averaged about 70 per cent. There is every reason to believe that with steel consumption increasing slightly since early in the year and with steel production having decreased by one-fourth, the production is now under the consumption and stocks are being liquidated.

Consumption of steel will continue heavy for some time to come, but the latest views as to the more distant future represent more doubt than recently and there is no disposition to make definite predictions at this time as to the volume of industrial activity, involving the consumption of steel, in the late months of the year.

Production of steel may decrease further, and in fact is definitely trending to a lower rate, but not a much lower rate. Often July is the light month of the year for production, and a rough guess would be that while mills are now running at about 70 per cent, they will be running at about 60 per cent in July. Whether afterwards there will be an upturn in steel production, or some further decrease, depends on how general business conditions shape themselves.

Backlog Business

An approximate estimate is that buying of steel in general since the beginning of this month has represented a tonnage equal to about 50 per cent of productive capacity. There is backlog business on mill books, running through the summer, in rails, tin plate and structural material, equal to say 15 to 20 per cent of capacity. With an unchanged rate in buying the mill operating rate would hardly go much below 70 per cent, but there may be a little further decrease in buying.

The Steel Corp.'s unfilled obligations decreased by 421,207 tons in March and by 416,996 tons in April, each decrease representing about 30 per cent of the corporation's capacity. Shipments may be estimated at 94 per cent in March and 85 per cent in April, indicating that bookings were about 64 per cent of capacity in March and 55 per cent in April. Shipments this month will probably be around 75 per cent, perhaps somewhat less, and with only the small decrease in bookings that may be expected, the unfilled tonnage loss this month should be smaller than the losses reported for each of the past two months. Naturally the probability is that there will be decreases for several months, as there had been increases for seven consecutive months, through February.

Resistance to Declines

While the general tone of the steel market has been a soft one for months, there is really much resistance to actual declines. There have been no reportable declines in finished steel prices of any consequence for about three weeks. As to the tone, bars, shapes and plates have stiffened slightly in the past two or three weeks, while sheets have softened and some grades are quotable a trifle lower. Wire products have continued somewhat unsteady. Rails are, of course, unchanged, as is tin plate, and pipe prices hold with the rigidity that has characterized them ever since they advanced to the general basis, in April, 1923. The mills have all realized very thoroughly that to make any concessions would be to undermine the market, hence they have been rigid and punctilious in quoting. As there is hardly any profit in bars, shapes and plates at present prices, little in wire products, and possibly losses in sheets, it is all the more important for mills to preserve their advantageous position as to rails, tin plate and pipe.

The pipe mills continue operating at about 70 per cent, perhaps at a little more than that percentage. In both merchant pipe and oil country goods buying is in many small orders, and the total volume of turnover has shown no appreciable change in the past two or three weeks.

MADE DIVISION MANAGER

L. C. Harbert, formerly factory representative of the Axelson Machine Co. at Tulsa, Okla., has been made division manager in charge of sales east of California for the J. P Rattigan Co.

L. C. Harbert

Mr. Harbert has established headquarters in Tulsa, Okla., from which point he will direct the sales of the Rattigan line of oil field equipment.

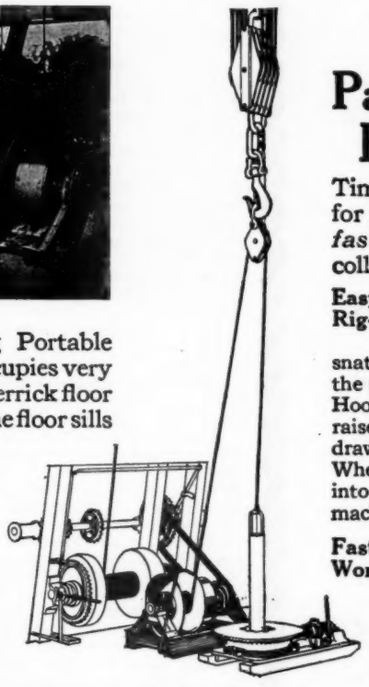
TO VISIT ALL FIELDS ON SIX MONTHS' TOUR

Jack Mellon, sales manager for the Dunn Manufacturing Co., of Oxnard, Cal., manufacturers of Dunn Safety Oil Well Tools, left Los Angeles early this week for a six months' trip to the Mid-Continent and Eastern oil fields. His first stop will be in New Mexico and from there he will visit all the fields of Texas, Oklahoma, Louisiana and Arkansas, after which he will make a three months' trip to the eastern oil fields, including Missouri, Ohio, Pennsylvania, New York and then to Canada before returning to California.

The purpose of Mr. Mellon's trip is to thoroughly familiarize oil men in the different fields with the new Dunn Safety Tools—the Dunn Safety Hook, Dunn Safety Elevator and Dunn Smithtonga.

Mr. Mellon has been with the Dunn Manufacturing Co. for a number of years, having represented them both in the oil fields of this country and those of England, France, Rumania and Russia. He is well known throughout the oil industry.

For Rotary Bailing, Swabbing and Handling Collapsible Drills—



The Parkersburg Portable Bailing Machine occupies very little space on the derrick floor and is anchored to the floor sills by rods and plates supplied with the machine. Driven from the drawworks countershaft—either from the fast side sprocket, or from a split sprocket placed along side of the engine sprocket. The exceptional fast bailing, together with the time saved rigging up, assures a decided saving.

Parkersburg Bailing Machines and Chain Driven Sand Reels are made in a variety of sizes and types for use with Rotary Rigs and Standard Cable-tool Drilling Rigs.

Ask our nearest representative for information regarding sizes, capacities, and information as to just how these machines will save money for you. We'll be glad to tell you where there is a Parkersburg Bailing Machine or Chain Driven Sand Reel in a rig—convenient for your inspection.

Cut down your expenses by using

Parkersburg *portable* Bailing Machines

Time saved "rigging-up" means money for you! It pays to take advantage of *faster* bailing, swabbing and handling collapsible drills and core barrel carriers.

Easy to Rig-up After the sand line is spooled on the bailing machine drum, the end is passed through a single-sheave snatch block and fastened to the bailer or to the swab—all depending upon the operation. Hook the snatch block to the travelling block, raise the blocks with the drawworks; lock the drawworks and *you're all set!*
When you've finished, just skid the machine into a corner. Store the bailing line on the machine drum—the best place for it.

Fast Work The friction clutch on Parkersburg Bailing Machines transmits a remarkably flexible power, permitting faster work than can be safely accomplished with the use of the drawworks drum. The clutch and brake mechanism are interlocked, and are quickly and easily controlled by one lever.

The PARKERSBURG RIG & REEL COMPANY

Main Office and Works, Parkersburg, W. Va. ***New York Office,*** 30 Church St.

California Representatives, BUCK & STODDARD
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JAX·ROPE·C
AJACO INC

"The Black Golconda"

Marcosson's new book is a stirring, vivid story of the oil fields.

The foreman of the drilling gang may not care about books but he does think about ROPE.

HE KNOWS

that a poorly built Bull Rope can cause all kinds of trouble. Snapping of the drilling cable means hours, perhaps days, lost in recovering the drilling tool.

WERWEL Drilling Cable is an Ajax Product

Wherever Werwel has been used drilling cable troubles have been reduced to a minimum.

Werwel drilling cable has a reputation that we are proud of.

Built to the exacting specifications of leading drilling experts AJACO Bull Rope meets all requirements.

The esteem held for AJACO Bull Rope is a more compelling reason why you should use this strong, long wearing rope.

AJACO Bull Rope is an Ajax Product

Supplementing the excellence of

ROPES BUILT SPECIALLY FOR USE IN THE OIL FIELDS

is a supply system and delivery service constantly prepared to meet your wants.

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"Strength in Every Length"

AJAX ROPE COMPANY INC.
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R. S. O. Lawson, President

Opposing Policies In Contest Between Rival Gas Companies

The disclosure that the Standard Oil Co. of Indiana is back of the Hope Engineering Co., which is promoting the opening of a new industrial gas supply to Wichita and Hutchinson, has far-reaching significance, writes Elmer T. Peterson in the Wichita Beacon. This concern is being vigorously opposed by the H. L. Doherty interests. Two great corporations are therefore pitted against each other.

The point of difference does not appear to lie only in the getting of business, but also in the clash of two opposite philosophies as to gas consumption. In the litigation relating to the rates on domestic gas in Wichita and other cities served by the Doherty lines in the past few years the Doherty engineers and lawyers have endeavored to build up this proposition:

Natural gas is a very convenient and therefore precious fuel. It is limited in supply. Therefore it should be used only for domestic purposes and hoarded carefully. It should be retailed at a substantial rate under drastic restrictions that discourage the use of gas for heating or industrial purposes, so as to spread the supply over as long a term of years as possible.

That the Doherty people actually sincerely believed the supply of natural gas was limited is indicated by their plans to convert their supply systems into artificial gas plants as the natural gas became exhausted.

Regardless of the validity of either stand, nature and the gas producing companies took a hand and changed the entire aspect of the natural gas problem in this part of the country. Immense new fields were opened up, in northern Oklahoma around Blackwell; in Cowley and Elk Counties, Kansas, and recently in the Amarillo Field of Texas.

In the outskirts of the city of Blackwell is the Otstot Pool, which experts claim will produce 93,000,000,000 feet before it becomes exhausted. The Doherty pipe line has holdings here, but a larger part is held by Harris & Haun of Blackwell, who will supply the Larutan company, which is the distributing end of the Hope Engineering project. The Hubbard, Deer Creek and Braman Pools are also big producers. The Padgett Pool of Sumner County, Kansas, is another big producer. A single well in the Otstot Pool owned by Harris & Haun has an open flow of 27,000,000 feet a day.

The total potential production of drilled wells controlled by the Larutan company is estimated at more than 500,000,000 feet a day open flow. The Doherty company controls a total potential production of 377,000,000 feet open flow, with 500,000 acres of proved gas land to draw from.

Many gas wells are blowing off or their owners are begging for a chance to sell it at 6, 7 or 8 cents a thousand. Then there are great territories which are untested, although proved by wells on all sides, so that the total probable production of natural gas in territory adjacent to Wichita is staggering in its magnitude. The city of Wichita now uses about 10,000,000 feet a day.

Use of Gas Growing

That gas, both natural and artificial, is becoming a greater factor rather than less, in the country at large, is indicated by the following from the Chicago Journal of Commerce:

"Both companies and the consuming public will be benefited by an industrial gas campaign which has been launched by the companies of the country under the leadership of the American Gas Association to make this fuel the universal heating medium.

"More than a hundred of the largest gas companies have made or are making industrial heating surveys of their territories, and it is believed that such communities will be aided by this information in attracting new industries.

"Along with this movement is the establishment by an increasing number of gas companies of industrial service departments. The policy of these departments is to help industrial fuel users to get the most economical use of their equipment, regardless of the fuel which is being used at the time. Such cooperation between the producers and users of fuel is said to introduce a new phase in industrial progress."

The Standard Oil policy in regard to natural gas seems to be the opposite of the Doherty policy, namely that there is an abundant quantity of gas crying for a market at low rates; that this gas will seep away or be dissipated if not used soon after the pool is tapped; that using it for industrial purposes is real conservation, not waste. And so the Larutan company, subsidiary of the Standard, asks for the privilege of supplying gas to Wichita and Hutchinson at low rates for industrial purposes.

TEXAS GASOLINE TAX STILL IN LITIGATION

AUSTIN, Tex., May 16.—Motion for rehearing is being prepared by the attorney general's department in the case of the Pioneer Oil Co. of San Antonio and others against the State of Texas, from Travis County, pending in the Third Court of Civil Appeals at Austin. This case involves approximately $300,000 collected by the comptroller in 1923 under the gasoline tax law of the Thirty-eighth Legislature.

After the comptroller had collected the tax from dealers in gasoline amounting to about $300,000, the act was repealed and supplemented by another law under which the State now is operating. During the month the act was in effect, when the collections were made, the Pioneer Oil Co. and others obtained an injunction from Judge Calhoun of the District Court of Travis County restraining the comptroller from placing collections in the treasury. The trial court dissolved the injunction and ordered the money collected and placed in the treasury department.

An appeal was taken to the Third Court of Civil Appeals and that tribunal reversed the judgment of the trial court and ordered the money returned on the ground that the law under which the tax had been collected was repealed and of no effect.

In the event the appellate court denies a rehearing, an application for writ of error will be filed in the Supreme Court and thus finally adjudicate the litigation.

BURNING GAS WELL MAKES PRAIRIE BLOOM

CALGARY, Alberta, May 16. — Nature's schedule for the blooming of wild flowers has been entirely upset this spring in Turner Valley, near here, where a big flame burns continuously at two outlets for superfluous gas from the Royalite 4 oil well.

Within the radius of the heat of the flames a wild flower hothouse has been created, and the blooms are opening four to six weeks ahead of their normal time. Crocuses bloomed and passed on there long before they appeared in the adjacent prairie, and lilies that usually bloom late in June are now in their full glory. Wild strawberries were picked in the vicinity this week.

MOVES N. Y. HEADQUARTERS

The Austin Co., engineers and builders, headquarters at Euclid Avenue, Cleveland, announces the removal of its New York office to larger and more efficient quarters in the Equitable Building, 120 Broadway. The New York staff has been increased.

The Austin Co. reports an increasing volume of industrial construction on the Atlantic Seaboard during the past few months.

J. K. Gannett is the district manager of the New York office of the Austin Co. A. D. Engle and D. C. Raymond are his assistants.

Safe Spacing of Oil Storage Tanks

Text of Recommendations by A. P. I. Sub-Committee on the Proposed Regulation of National Fire Protection Association

The report which the American Petroleum Institute made to the Arbitration Board which has under consideration the proposed regulation of the National Fire Protection Association in regard to the spacing of above ground tanks for the storage of oils, was based on the most exhaustive survey of fire hazard ever made within the industry. The survey was largely the work of a sub-committee of the institute's committee on "Fire Prevention and Protection of Life and Property," consisting of H. L. Shoemaker, chairman; Frank E. Epps and Ralph J. Reed. W. R. Boyd, Jr., assistant general secretary of the American Petroleum Institute, who represents the organization on the committee has also been active in compiling the data on which the oil industry's position is based.

A total of 130 companies representing all phases of the petroleum business, production, transportation, refining and marketing, were invited to send representatives to regional conferences, held by the committee during January, February, and March at New York, Chicago, Dallas, Tulsa, Denver and Los Angeles. As of March 20, 1925, 87 organizations had furnished complete information to the committee. On that date 992 reports of oil fires had been traced, and definite records of one-third had been received. Records for one-third had not at that time been received, and the remaining number were dropped from consideration because the record was erroneous, could not be obtained, or because the fire did not involve oil tanks. In most cases of unobtainable records the fires were of such small consequence no record was kept. From the representative nature of the reports their large number, the territory covered and the branches of the industry participating, the committee has felt warranted in proceeding to analyze the data and to draw definite conclusions.

Tank Construction and Ignition

The report of the committee follows:

The committee has classified fires, and tanks in each fire, according to type of oil property, kind of oil, and major fire cause. Fire records have been divided into three classes, the first covering tanks which burned over the entire exposed oil surface, the second covering tanks which burned only at vents and hatches, the third covering tanks exposed to fire, but not ignited. Tankage has been separated into three distinct kinds: first, standard gas-tight tanks; second, non-standard gas-tight tanks; third, non-gas-tight tanks.

In this report a "standard gas-tight tank" is one built and maintained strictly as described in the Suggested Model Ordinance. A "non-standard gas-tight tank" is one in which gas-tight construction is intended, but in which the construction is not in exact accordance with the ordinance. For example, a steel tank without a steel roof, but made gas-tight by any one of several means, is considered a "non-standard gas-tight container." All other containers are classed as "non-gas-tight."

The committee has the following comments to make with reference to Table 1. An analysis of the 304 fires occurring in 10 years and involving 416 tanks, indicates that fewer fires occur in marketing stations than in any other class of property. In this connection, 87 companies (including the largest oil companies) report for marketing and other oil properties the following:

Oil Tank Fires in 10-Year Period (1915-1925) Reported by 87 Companies

Class of Oil Property	No. of Plants or Stations	No. of Fires Reported in 10 Years	Or 1 Fire per Plant in
Refineries	143	73	20 years
Marketing Stations	11,132	19	5,860 years
Pipe Line and Ocean Terminals	273	77	35 years
Tank Farms	713	88	81 years

These records clearly demonstrate that the marketing station is a far safer risk than any other type of oil property.

Table 1 shows that lightning caused 55 per cent of all the fires in this record. Of the 230 tanks so ignited, only six were strictly gas-tight containers as called for by the Suggested Model Ordinance. A detailed analysis of these six fires gives evidence of unprotected vents. Attention is called to the fact that approximately 93 per cent of the tanks ignited by lightning were not gas-tight. The records shows many had wooden roofs.

Exposure, that is, proximity to fire originating in another structure, ignited about one-third of the tanks. Of these tanks, 39 were apparently gas-tight and were located principally at marketing stations. The records show most of these tanks were ignited by fires originating in warehouses, pump houses or like structures, or as a result of truck filling operations.

Table 1 shows there are more fires in gas-tight tanks at marketing stations than in non-gas-tight tanks. This is natural in view of the predominance of gas-tight tanks at such locations.

Crude Fires Majority

In table 2 the five columns at the left are the same as those in Table 1. The same fire records have been analyzed with reference to "kind of oil." This table indicates that 58 per cent of the tanks that burned contained crude oil, stored mostly in tanks of non-gas-tight construction. This is held to demonstrate that the majoriy of oil tank fires involved crude. It also shows the fire hazard of crude oil stored in non-gas-tight containers.

Regarding fires in fuel oil tanks, the committee has been able to secure evidence of only 14 such fires in the 10-year period. Four were in standard containers. Considering the practically insignificant fire record in such tankage, the committee firmly believes that rules drafted to cover crude oil storage should by no means be applied to fuel oil storage.

With reference to gasoline fires as shown in Table 2, it is observed that 20 per cent of all tankage burned contained this commodity. Less than one-third of these tanks were gas-tight. Three-quarters of the gas-tight tanks that burned (18 in number) were located on marketing properties, and in Table 1, exposure is shown to be the chief cause. A detailed analysis of these 18 cases indicates the reason for this ignition by exposing fire can be attributed largely to unprotected vents, to vents of insufficient capacity, and to other features which made the tanks non-standard at the time of ignition.

Regarding kerosene and refined oil fires, these fires represent 17 per cent of the tanks burned. With reference to gas-tight tankage for these products at marketing stations, the same comments made for gas tight gasoline tanks are here applicable. There is little, if any, difference in hazard between kerosene and refined oils and gasoline.

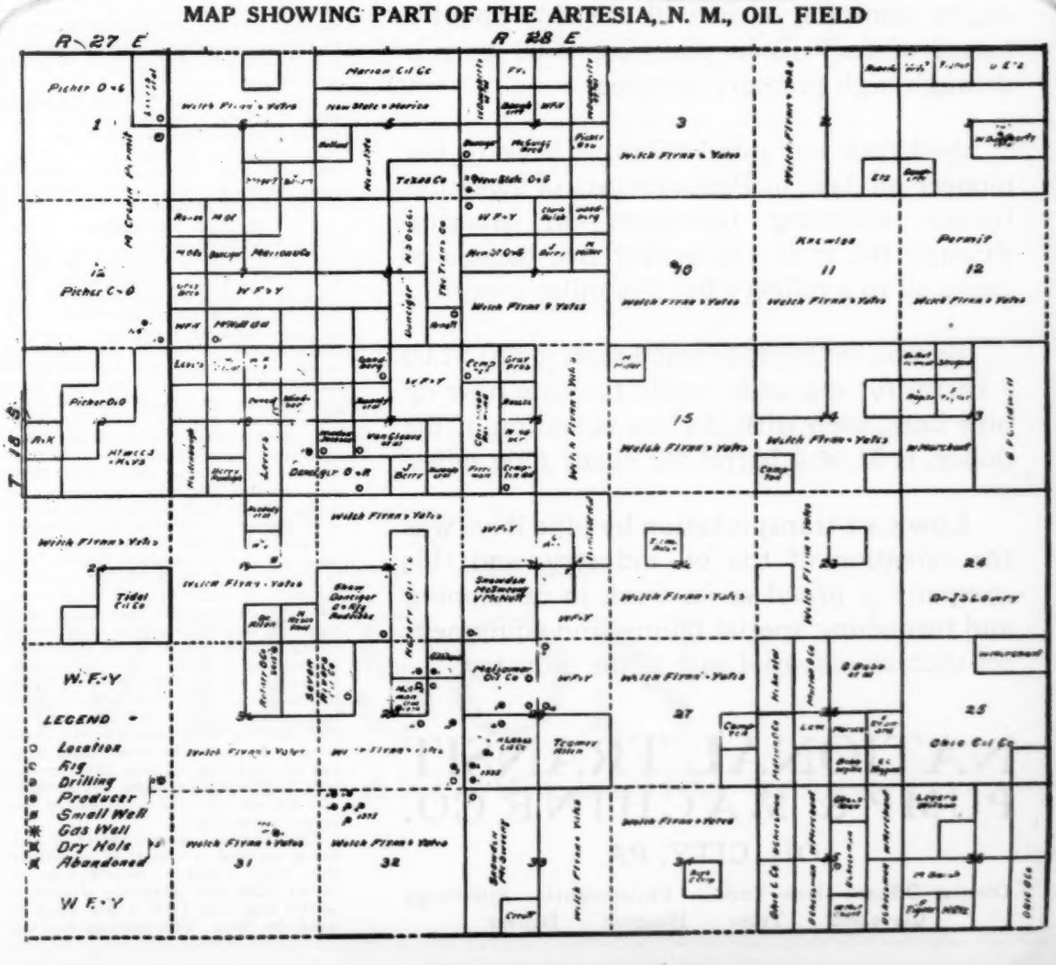
Table 3 summarizes the experiences of the 87 companies reporting not only fire data, but number of tanks in service. It illustrates clearly:

1. That wood-roofed tanks, as a class, are greater risks than steel-roofed tanks.
2. That steel-roof tanks as a class appear to be negligible risks, regardless of the kind of oil stored. It is doubtful if there are many insurable risks that show such low fire frequency.*
3. That the marked trend is toward all-steel tank construction. It is estimated that 87 companies in the 10-year period increased their wood-roofed tankage 28 per cent, and their steel-roofed tankage more than 50 per cent.
4. That, irrespective of flash point, gasoline, kerosene and refined oils are almost equal fire risks when stored in outside above ground steel-roofed tankage. As there is no better measure of

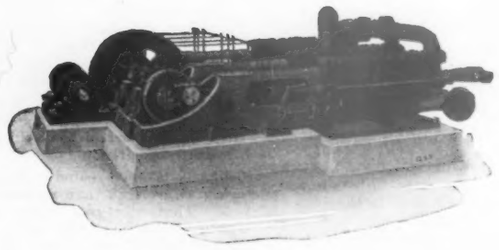
*In considering Table 3, it is interesting to compare the annual fire-loss ratios for tanks containing petroleum products with those applying to dwelling houses, generally conceded to represent a very low fire risk:

Number of dwellings in United States in 1920 (The world Almanac, 1925)	20,697,204
Number of fires in dwellings in United States per year (Safeguarding America Against Fire, December, 1924)	131,035
Annual fire-loss ratio (or percentage of dwellings burned per year)	0.63%

MAP SHOWING PART OF THE ARTESIA, N. M., OIL FIELD



Thoughts



We see a large triplex pipe line pump working steadily and easily—almost lazily—with but one man in evidence only part of the time. He feels a few bearings, looks into a few sight-feed oilers, and goes out seemingly unconcerned.

We are awed by the very silence of so much power.

Through the firewall, we hear the dull muffled exhaust of the oil engine and we remember the impressive fact that a modern oil engine pumping outfit will use only about a barrel of fuel oil in pumping 2300 barrels through high pressure systems.

And then our mind takes us back to the pioneer oil days in Pennsylvania of sweating horses, swearing teamsters—all laboring through the mud—to deliver five barrels of crude oil to a refinery but five miles away.

By wagon transportation then it cost $1.00 a barrel *for one mile,* while the rate now by pipe lines, even with the low valuation of the dollar, is $1.00 a barrel *for about 1700 miles.*

Low cost transportation by pipe lines was the salvation of the oil industry, and this company is proud of its work in developing and furnishing special pumps and equipment for such an essential part of the industry.

NATIONAL TRANSIT
PUMP & MACHINE CO.
OIL CITY, PA.

District Offices: New York Philadelphia Pittsburgh
Cleveland Tulsa Houston Denver

fire risk than the ratios expressed in the table, such products should receive identical treatment in tank spacing.

Few Fuel Oil Fires

Fuel oil, while having a somewhat greater fire loss ratio than gasoline and refined oils, is nevertheless far harder to ignite, and much easier to extinguish. Few fuel oil fires have ever occurred and in no instance does the record show fire was communicated to adjacent structures. It appears reasonable to recommend that fuel oils be classed with gasoline and refined oils for purposes of tank spacing.

Crude oil has the highest fire loss ratio. It is subject to "boiler-over," and has caused fire spread in many instances. Accordingly it appears desirable to classify crudes separately when establishing distances between such containers and adjacent property lines.

In the relatively few cases of ignition of standard gas-tight tanks such ignition resulted directly because of some defect in equipment which rendered the tank sub-standard at the time of ignition. This is of prime importance, emphasizing the necessity for the continuance of the excellent tank maintenance record of the industry. The committee believes every oil company owning gas-tight storage containers should, if this is not already its practice, institute at once careful and periodical inspection of such equipment at reasonably frequent intervals; records of these inspections should be kept; and defects found should be promptly remedied.

So far attention has been focused entirely upon the cases in which the tanks involved burned over the entire exposed oil surface. The committee has investigated, likewise, fires of lesser magnitude, unimportant as fires, but very important in considering the fire-resistive characteristics of the tanks involved. In such instances the tanks have burned only at vent, hatch and roof openings. In practically all cases a detailed analysis indicates fires have not spread to adjoining structures. The tabulation in Table 4 shows such fires or ignitions have been caused largely by exposure to another fire. about 93 per cent may be attributed to this cause. Proper flame protection for all roof or hatch openings is of great importance.

Referring to Table 5, it will be noted that of 117 tanks burning at vents and hatches, 70 per cent contained gasoline. This is natural in view of the volatile character, and the lesser volatility of other products. This table should be compared with Table 4.

Exposed, Not Ignited

The records of tanks exposed to fire, but not ignited, is set forth in Table 6. Of 248 tanks in 82 fires, 32 per cent were so seriously exposed the paint was blistered, and in many cases burning oil or flame actually enveloped the tanks. Twenty-three per cent, while less seriously exposed, were still in very grave danger as the wind blew the flames from the exposing fire toward the tank and, in some cases, burning oil was very close by. The remaining tanks were either moderately or mildly exposed, the fires in such cases being respectively about one and two diameters away from the tanks. The bulk of tanks exposed to fire were located in refineries and marketing stations, which two classes are most frequently found in corporate limits. This is indicative of the fire-resistive characteristics of tanks in such limits. Of 248 tanks exposed, 111 were strictly gas-tight. In refinery properties the 114 non-gas-tight tanks exposed to fire were mostly steel-roofed tanks. It is reasonable to assume the majority were protected by steam and water, and in many cases foam. This largely accounts for the fact that so many non-gas-tight tanks resisted fire. On the other hand, tankage at marketing stations, that successfully resisted fire exposure, was gas-tight and did not have the advantage of any special protection.

The excellent exposure record of marketing stations is typical of conditions. One large company reports approximately 4,200 bulk marketing stations in service and only 1,600 within reach of water fire lines. This company has only experienced eight gasoline tank fires and six refined oil tank fires in 10 years' operation. The committee doubts if many other businesses engaged in the handling and storage of combustible products on this scale can show such records.

Tank Spacing

Reference is now made to Table 7, spread of fire, in which records of 304 oil fires involving 416 tanks have been analyzed with reference to the distance the fire spread and also to the distance from the nearest structure not ignited, both distances being expressed in terms of tank diameters. As before, the tanks affected are classed as to type and the commodities stored are arranged in four groups.

It will be observed that 43 presumably gas-tight tanks containing gasoline, kerosene and refined oils were burned. For 30 no spread of fire was stated, it being a fair assumption the commodity merely burned in the tank without damage to adjacent structures. In the case of 11 the fire spread was more than one diameter. Reference has been made to the original record in each case. The fire spread appears to be due either:

(a) to insufficient vent capacity, causing explosion and scattering of tank contents; or,

(b) to the absence of flame-arresting devices, allowing propagation of flame into the tanks; or,

(c) to improper construction as, for example, pump house built beneath tank; or,

(d) to improper judgment in handling fire, as puncturing tank shell with rifle bullet during fire in adjacent pump house.

Note that this record, covering a 10-year period and indicating 11 instances in which presumably gas-tight tanks containing gasoline and refined oils have burned with a fire spread in excess of one tank diameter, is exceedingly remarkable when it is understood this represents the full fire experience of about 50,000 tanks in service for 10 years. With two exceptions, the 11 instances were all relatively unimportant fires, occurring in small bulk marketing stations. Few gas-tight tanks containing fuel oils have burned. No spread of fire is recorded for these.

As fire spread from gasoline, kerosene and fuel oil tanks has occurred in so relatively few instances, the committee feels it is impossible to deduce requirements for tank spacing from these isolated cases. This is especially obvious because practically all the cases cited were unimportant fires.

Present Practice

In formulating its recommendation the committee has given consideration to present-day practice in spacing tanks from adjacent property. At marketing stations, the committee is forced to conclude the industry as a whole does not have any generally established rule. About one-half the companies reporting marketing station practice (including practically all the large companies) ordinarily use tanks in these locations approximating 10 feet by 30 feet in size or with a capacity of about 400 bbls. It is also observed the majority of companies using this size of marketing tank now maintain a minimum distance of 10 feet from shell to property line in their newer installations. This corresponds to a one-diameter spacing.

Of the companies reporting present practice in spacing the larger tanks usually found at refineries, large bulk installations and ocean loading terminals, records also show no standards of spacings. About one-third report that ordinarily for new construction the endeavor is to maintain about one-diameter as a minimum distance from shell to adjacent property line. The committee believes a recommendation of one diameter spacing for all commodities save crude follows what the oil industry already has established as good practice and is sufficient to protect property all interests concerned.

The committee points out that the fire record of the petroleum industry, excellent as it is, has been based on past practice which, in many cases, as stated pre-

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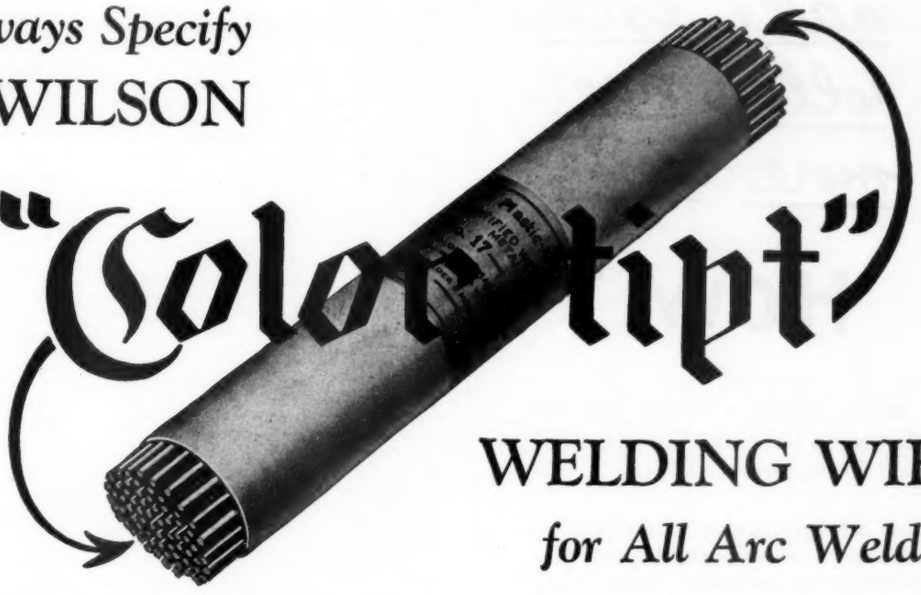

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In the oil production business the man who uses a working barrel that automatically packs itself, that rarely has to be pulled, that does not cut oil—even in the worst wells—that man is making a dollar of a maximum number of cents. When the

"Tex" plunger Working Barrels

Working Barrel was first put on the market after having been very carefully tested, it was difficult to make oil men believe that here, at last, is a working barrel that can be placed at the bottom of the well, can be left there and can be depended upon to work satisfactorily without the enormous expense of frequent pulling and delays.

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viously, does not measure up to the standard now being recommended (i.e., one tank diameter bewteen tank shell and property line for gasoline, kerosene and refined oils, and fuel oil.) There are in service today thousands of tanks operated by hundreds of companies spaced much less than one diameter from property lines. Spacing of one tank diameter for future construction (except for crude oils) provides ample and adequate safety.

Regarding crude oil when stored in gas-tight tankage, Table 7 shows six fires in two of which the fire spread more than one diameter. The table apparently indicates that, when stored in gas-tight containers, there is no great difference in hazard between crude oil and other products considered. The figures given in Table 3 under "Annual Fire Loss Ratio" for crudes in steel-roofed tankage also point to the same conclusion. The committee believes the record of six crude tank fires quoted in Table 6 should hardly be considered conclusive in view of the few fires and the generally limited use, until recent years, of this type of container for crude oils. A detailed examination of the reports of these six fires indicates the probability the tanks had unprotected vents, and might have been considered as non-standard gas-tight containers at the time of ignition. In years to come, with increasing use of gas-tight tankage for crude, more conclusive data will be available.

In the meantime, the committee gives more consideration to the following facts:

(a) that 58 per cent of all fires recorded, considering all classes of storage, were crude oil fires, establishing the preponderance of fires involving this material;

(b) that crude oil is more hazardous than the other commodities mentioned, due to the "boil-over" hazard, which required greater area to minimize fire effect and to provide for adequate fire walls;

(c) that the inherently different hazard of crude storage is recognized by the industry itself, since the current practice is to space large, steel-roofed crude oil tanks, even in outlying districts, one and one-half to two diameters apart and from adjacent property.

These considerations, together with a study of fires in which "boil-overs" have occurred, lead the committee to recommend a spacing of two tank diameters from shell of tank to line of adjoining property which may be built upon, as a reasonable spacing providing adequate safety to all concerned. When crude oil is stored within corporate limits the committee believes it constitutes a different hazard than the other commodities mentioned, justifying the additional spacing.

Fire Walls

(a) Gasoline, kerosene and refined oils.

Recent experiments and research* have proved conclusively that these light oils are not subject to any "boil-over" hazard. It is to be expected, and the records demonstrate that such oils ordinarily burn entirely within their own containers. This is evidenced by Table 8, from which it is observed fire-walls were called upon to prevent the spread of fire in but eight cases in 10 years. In 12 other cases fire spread because of the non-existence of fire walls. Thus fire walls were effective, or could have been effective, in 10 years in only 20 out of 152 instances. It is conservatively estimated the 152 light oil tank fires reported represent the fire experience of not less than 50,000 steel-roofed tanks in service. Thus, fire-walls surrounding these 50,000 tanks could have been of practical benefit in only 20 instances—in a 10-year period—or 2 per year.

The committee believes this experience demonstrates the injustice of requiring elaborate fire-wall construction and the needless expense caused thereby, for the protection of this class of storage.

(b) Crude oils.

The same experimental work which demonstrated that refined oils were not subjected to boil-over, showed this hazard to be present in crude oils, borne out by the actual fire record of crude tanks reviewed.

Table 8 shows that out of 242 crude oil tanks burned, in 75 instances the fire walls as constructed and maintained were ineffective in preventing the spread of burning oil. On the other hand, in 56 cases such fire walls were effective. For fire walls capable of holding from 100 to 150 per cent of tank capacity, this table shows 46 cases when these walls were ineffective in holding crude oil boil-overs, and 39 cases where such walls were effective. For fire walls over 150 per cent of tank capacity (and in the following cases cited the capacity was 200 per cent) the table shows 10 cases when the fire wall did not retain the boil-over, and nine cases when it did. These figures clearly demonstrate that capacity alone is not a measure of fire wall effectiveness.

This statement is confirmed by the experiments conducted by the Standard Oil Co. of California but these experiments further demonstrate the design and location of the fire wall with respect to the tank are of fundamental importance. The principal factor in design is the inclusion of some form of coping on the wall, projecting inward, the purpose of which is to turn the advancing wave of the "boil-over" back on itself. To obtain full value from such coping, the experiments demonstrated the fire wall should be approximately one diameter from the tank, and in no case nearer than 50 feet to a tank 30 feet high.

The committee is convinced fire walls for crude tanks should be provided with a coping or flare-back as described and in addition located properly with respect to the tank. With regard to proper capacity for such fire walls, the committee feels a minimum capacity equal to that of the crude tank should be provided within such fire wall enclosures, unless adequate drainage to a sump of like capacity is provided.

Believing this to be the proper solution of the fire wall problem for crude tanks, the committee recommends the building of fire walls as described.

Allowance for Fire Protective Systems.

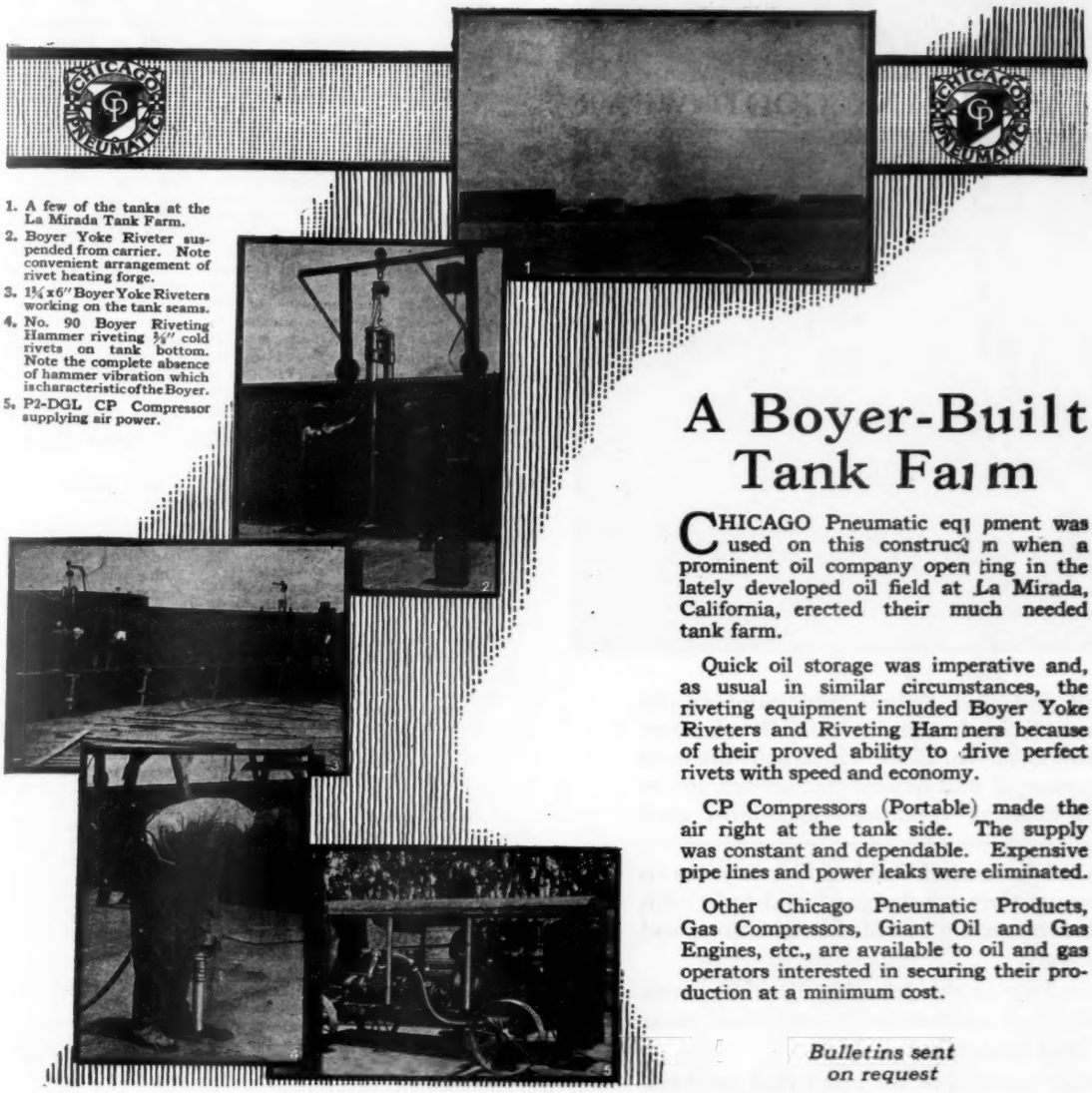
The fire spread hazard of oil tanks is unquestionably reduced by the installation of permanent foam systems. The demonstrated efficiency of such equipments justifies a proper recognition by suitable reductions in tank spacing requirements when such installations are made. The committee recommends that the spacing to adjoining property as recommended in Part 3 be reduced 50 per cent when the oil tanks are protected with adequate foam systems. In any case, however, fire walls should be provided for crude tanks as recommended.

*"Safe Oil Storage," December, 1924. Pamphlet issued by Standard Oil Co. (California).

DISTRIBUTION PLANS OF PIERCE PETROLEUM

OKLAHOMA CITY, Okla., May 18.—Expansion of the distribution department of the Pierce Petroleum Corp. in Oklahoma, Texas, Arkansas and others southwestern States is being made to keep pace with an increase in the production of oil products ensuing upon completion of the corporation's enlarged refinery at Sand Springs, Okla., 75 agents and salesmen of the corporation were told in their annual meeting here by Gayle S. Steele, of St. Louis, assistant general manager. He said the corporation is spending $1,000,000 in enlarging the Sand Springs plant and that the expansion of agencies and stations had been especially marked in Arkansas, Oklahoma and Texas.

The meeting was presided over by T. N. Asbury of Oklahoma City, manager of the Oklahoma division, and was addressed by Mr. Steele, George S. Norman, of St. Louis, manager of the lubricating sales department, and Theodore A. Peck, chief of staff. The Oklahoma division includes the Panhandle of Texas and salesmen and agents were here from Dalhart, Hereford, Canadian, Canyon Claude, Perryton, Pampa and Shamrock.



1. A few of the tanks at the La Mirada Tank Farm.
2. Boyer Yoke Riveter suspended from carrier. Note convenient arrangement of rivet heating forge.
3. 1¼ x 6" Boyer Yoke Riveters working on the tank seams.
4. No. 90 Boyer Riveting Hammer riveting ⅜" cold rivets on tank bottom. Note the complete absence of hammer vibration which is characteristic of the Boyer.
5. P2-DGL CP Compressor supplying air power.

A Boyer-Built Tank Farm

CHICAGO Pneumatic equipment was used on this construction when a prominent oil company operating in the lately developed oil field at La Mirada, California, erected their much needed tank farm.

Quick oil storage was imperative and, as usual in similar circumstances, the riveting equipment included Boyer Yoke Riveters and Riveting Hammers because of their proved ability to drive perfect rivets with speed and economy.

CP Compressors (Portable) made the air right at the tank side. The supply was constant and dependable. Expensive pipe lines and power leaks were eliminated.

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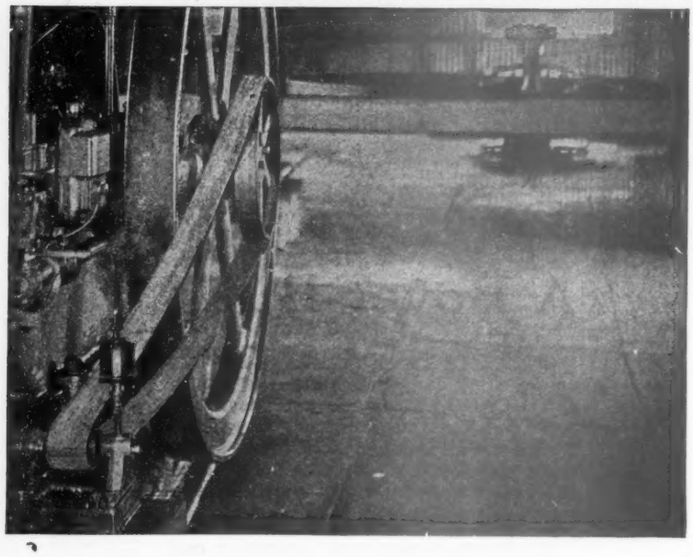

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SUPPLY COMPANY STOCK RECORDS, PROPERLY KEPT, PROVE ECONOMY

By H. H. Bailey
International Supply Co.

To mention stock record to the average executive of any large oil company or supply company is sure to provoke a lusty shout of "it can't be done." Viewing the majority of stock records dispassionately it is quite obvious that there is justification in the attitude taken by the executives, as most stock records are a failue from the standpoint of adequately fulfilling their purpose. However, long experience has taught the writer that the average company dooms the stock record to failure at its inception by the class of men employed to carry on the work and the sort of system installed. This article will purport to deal only with supply company stock records, although the majority of the points set forth will be applicable to oil companies as well.

To begin with there are several fundamental reasons why a stock record is essential to any supply company with a large number of stores in various fields throughout the country. In order of importance they are as follows:

1. A check of material to prevent carelessness or theft.

2. A record of stock on hand so that overstocks can be moved to points where the material is saleable.

3. A record of sales as a guide in purchasing material.

4. An aid to the sales department in locating material when local delivery is not possible.

So far as the first point is concerned it is quite obvious that the records can be kept at the branch store or warehouse and periodically audited by stock auditors. However, when this system is employed the other three points are rendered useless, and it is the opinion of the writer that in the aggregate the last three points are as important as the first. For this reason it is obvious that the record should be kept, either in the main office of the company, or in district offices, depending largely upon the size of the organization and the number of stores and warehouses. It is not logical that any company would turn over possibly $100,000 worth of merchandise to a store manager without a record that would enable it to know what disposition of the material was made. In our organization the auditors have been able to locate and collect for enough material that has got away from the stores, without being charged, to pay for the cost of our system. We then have the advantage of the other three points without a cent of cost to the company. At this time let me say that practically all material unaccounted for is due to carelessness and the fact that store men cannot view merchandise in the light of invested capital. I have known many store men to be more concerned in $5 shortage in cash than in a $100 shortage of material.

The second point links the purchasing department with the stock department, as all requisitions for material are first sent to the stock department to see if overstocks can be moved. The value of this phase is so evident that it will be useless to dwell upon it further than saying that a company with several million dollars invested should be able to save the cost of the stock record in this feature alone.

The third point also pertains to the purchasing department and is particularly valuable as so many store men are inclined to requisition more material than their past sales, or present conditions of the field in which they are located, would justify.

The fourth point links the sales department with the stock department and saves many phone calls and telegrams to various stores when it is necessary to furnish the material from certain points. Most inquiries and quotations sent to the main office of a supply company are for delivery at some point where the company has a store, and it is of immense value to be able to give quick and accurate information as to whether that store can furnish the material.

In installing a stock record it is essential that a way be provided whereby receipts and sales of material can be quickly posted. In our organization the store sends in records daily, direct to the stock department, and they are immediately posted in our records. Accuracy in handling the records both at the store and in the office is, of course, essential, and only men of high caliber, and with some experience in the supply business, should be intrusted with the records.

In closing I wish to say that no other phase of the supply business has been so neglected as the proper keeping of stock records, and I feel that, more and more, the importance of this work will be recognized by the executives of all oil companies and supply companies.

AWAITING DECISION ON FURNISHING PUMP

SAN ANTONIO, Tex., May 18.—Officials of the sales departments of the major companies are awaiting a decision from the Supreme Court on the question as to whether the practice of furnishing pumps and tanks to owners of filling stations is a violation of the Texas anti-trust laws. The suit was brought by the attorney general.

The filling station owners technically obligate themselves to use the products of the company furnishing the equipment to the exclusion of all other manufacturers of refinery products. This obligation, it is claimed, is a violation of the State's anti-trust laws. One of the large companies had 9,000 of these pumps and tanks distributed among dealers all over the State. The other marketers had varying numbers down to 1,000.

Now many dealers buy their own equipment and distribute it among subdealers in small towns and in rural regions. In many cases agents working on a commission basis are the owners of the pumps and tanks at filling stations.

SALES CONFERENCE

SHREVEPORT, La., May 16.—Approximately 100 officials, sales agents and salesmen of the Louisiana Oil Refining Corp., representing Louisiana, Mississippi, Texas and Arkansas, gathered here for the first semi-annual sales conference and "get-together" meeting of the company. F. E. Wilkerson, manager of agency sales, presided. The opening session consisted of 15-minute talks by officials and representatives of the departments. C. M. Bennett, vice president, was followed by M. J. Grogan, general sales manager; A. F. Whiting, treasurer; H. H. Heweston, superintendent of refinery; M. A. Tracy, tax and insurance department; R. H. Bridges manager lubricating department, and Leon O'Quinn, of the legal department. At the noon luncheon, F. M. Witherspoon, special representative of the legal department, delivered an address. Talks were made by the following members of the service department: A. L. Edsell, O. D. Smith and Gordon Hewitt, C. Alan Eckels, assistant manager of agency sales, delivering the final address, followed by a round table discussion.

WILLIAM GALLAWAY DIES

CHATHAM, Ont., May 16.—William Gallaway, 68, a well-known driller of Oil Springs, Ont., was killed while sinking a well. The derrick gave way, frightening his team which bolted, and Mr. Gallaway, endeavoring to stop them, tripped on the fallen timbers and struck his head, causing death from cerebral hemmorhage.

ONAL
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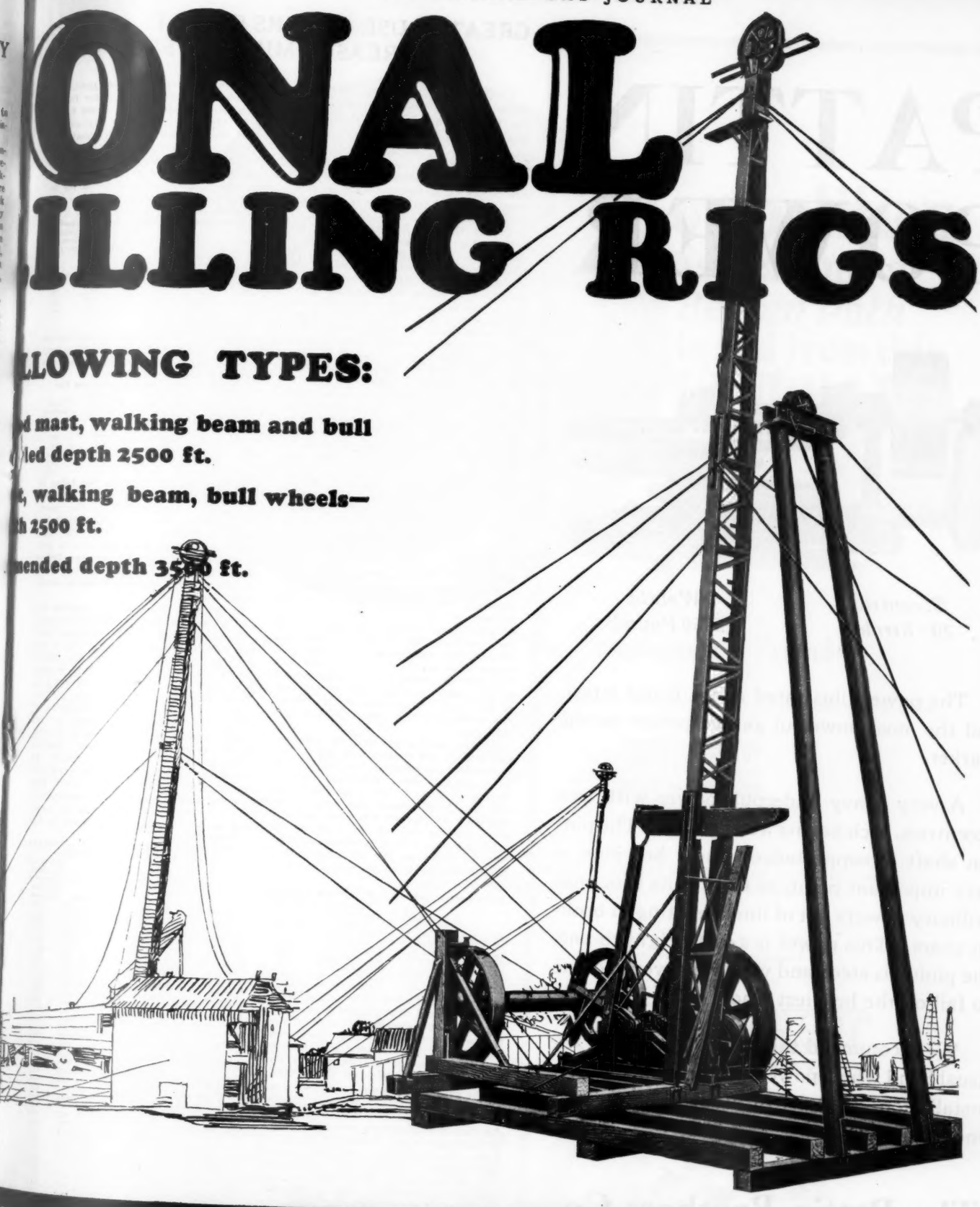
LLOWING TYPES:

d mast, walking beam and bull
led depth 2500 ft.

, walking beam, bull wheels—
h 2500 ft.

mended depth 3500 ft.



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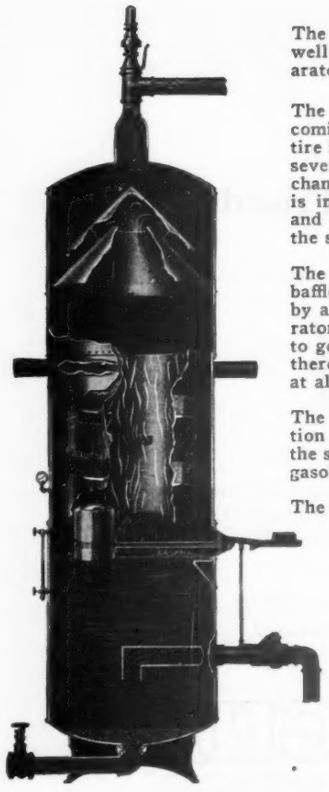

The gas and oil piped from the well comes into the Trumble separator in a tangent.

The centrifugal baffle takes the incoming oil and gas around the entire inside surface of the separator several times and gives the gas a chance to separate from the oil. It is impossible for the oil to drop and cause foaming as it clings to the sidewalls.

The gas goes back up through the baffle and is kept from channeling by a baffle in the top of the separator. It is impossible for any gas to go out through the oil outlet as there is a seal over the oil outlet at all times.

The centrifugal method of separation is the best method ever used, the same as that used in separating gasoline and water.

The floats are non-collapsible as the internal and external pressures are equalized, therefore, the SLIDE and SAFE valves have to work, as they operate automatically with the float.

The Trumble is a SEPARATOR—NOT a settling tank. It separates oil and gas on a scientific and practical basis. There is a saving of oil because the lighter fractions are retained while the separation is taking place. Use one Trumble and you'll soon use ALL Trumbles. Write now for further information.

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TULSA, OKLAHOMA

OKLAHOMA GROSS PRODUCTION SHOWS LARGE DECREASE FOR FIRST QUARTER

The decrease shown in the weekly estimates of crude oil production in Oklahoma is reflected in the reports of producing companies filed with the State Auditor at Oklahoma City, for taxation purposes, these reports, covering the first quarter of this year, show a decrease of 4,231,171 bbls. in output when compared to the last quarter of 1924. Total production for January, February and March in Oklahoma, as shown by the reports received by the State Auditor was 42,738,978 bbls. as compared to 46,970,149 bbls. for the last three months of 1925.

The report, as compiled by the State Auditor's office, follows:

A	
Aaronson, C. T., Tulsa	2,307
Abicht Drilling Co., Tulsa	452
Acacia Oil & Gas Co., Pawhuska	1,142
Acme Development Co., St. Louis, Mo.	5,557
Acta Oil Co., Okmulgee	1,433
Adams & McGahey, Ardmore	245
Adams & Prince, Ardmore	4,498
Aggas, John, Morris	688
Ajax Drilling Co. and John H. Harvey, Tulsa	1,567
Ajax Oil Co., Tulsa	209
Albert, W. O., Tulsa	488
Albion Oil Co., Tulsa	8,412
Alcorn Oil Co., Tulsa	38,794
Aldrew Oil & Gas Co., Tulsa	1,929
Alexander, J. H., Tulsa	268
Alexander-Shakely Petr. Co., Tulsa	7,644
Allen, G. R., Tulsa	266
Allen, J. R., Tulsa	835
Allen, L. M., Morris	195
Almeda Oil Co., Tulsa	3,904
Amerada Petroleum Corp., Tulsa	1,153,705
American Contracting & Producing Co., Bartlesville	335
American Eagle Oil Co., Bartlesville	23,983
American Oil Development Co., Pittsburgh, Pa.	9,509
American Oil & Gas Co., Bartlesville	5,580
American Pipe Line Co., Wichita Falls, Tex.	3,142
American Royalty Petroleum Co., Tulsa	926
Amster, N. L., Ardmore	25,597
Ancutt, G. C. & Co., Tulsa	95
Anderson, C. F. Trustee, Dallas Tex.	3,910
Andes Oil Co., Tulsa	388
Anolu Petroleum Co., Blackwell	1,175
Anthony, S. W., Mounds	763
Arkansas Fuel Oil Co., Pittsburgh, Pa.	2,800
Armstrong Trust Co., Tulsa	947
Arthur Oil Co., Sistersville, W. Va.	7,415
Ashland Oil Co., New York, N. Y.	4,237
Associated Oil Producers, Chicago Ill.	4,290
Atlantic Oil Producing Co., Dallas, Tex.	153,078
Atlantic Petroleum Corp., Tulsa	88,103
Aubyme Oil & Gas Co., Garber	4,010
Ault, J. F., Cleveland	35
Avery, Cyrus S., Tulsa	70
Avery Oil & Gas Co., Tulsa	1,390
Aztec Oil Co., Tulsa	20,252
B	
Bailey, Mrs. E. D., Tulsa	55
Bailey, Evan P., Tulsa	111
Bailey, K. E. Trustee, Tulsa	2,975
Bailey, S. H., Tulsa	111
Baker, Frank A., Tulsa	771
Baker & Strawn, Tulsa	18,044
Baker Oil & Gas Co., Independence Kans.	210
Ball, Cora G., Trustee, Coeffyville, Kans.	1,065
Baltic Operating Co., Bartlesville	8,863
Bamm Oil Co., Tulsa	74
Banfox Oil Co., Tulsa	72
Bank of Commerce, Okmulgee	310
Barbara Oil Co., Okmulgee	16,058
Barber Oil Co., Tulsa	350
Barker, Harry C., Poughkeepsie, N. Y.	1,007
Barnsdall Oil Co., Tulsa	454,170
Bartles-Johnstone Oil Co., Bartlesville	542
Bartlesville Oil & Improvement Co., Bartlesville	277
Bartlett, D. A., Estate, Marietta, Ohio	268
Bartlett, J. B., Tulsa	164
Bartlett, R. H., Receiver—Adams Oil & Gas Co., Tulsa	5,505
Baum, Henry, Ardmore	1,291
Baxter, A. B., Estate, Atlantic City, N. J.	727
Baxter, L. W., Tulsa	475
Bay State Oil & Gas Co., Kansas City, Mo.	17,355
Bay State Oil & Gas Co., K. C., Mo., and Paden Oil Co., Oklahoma City	6,106
Baynes, John A., Executor, Mounds	206
B. B. & Waite Drilling Co., Bartlesville	159
Beal, C. E., Depew	989
Beams, Dow, Okmulgee	1,920
B. Jack Oil Co., Sapulpa	788
Beacon Oil Co., Bartlesville	9,691
Beau-Ard Oil Co., Ardmore	675
Bebout, W. M., Bartlesville	283
Becker & Hutchinson, Okmulgee	33
Beebe, Lewis, Coffeyville, Kans.	69
Beggs Oil & Gas Co., Okmulgee	10,935
Bekner Corp., The, New York, N. Y.	1,275
Bell Oil & Gas Co., Warren, Pa.	4,255
Ben Franks Oil Co., Enid	588
Benage, F. L., Nowata	2,575
Bennett, Elizabeth, Tulsa	37
Berg, The Chas. E. Co., Inc., Caney, Kans.	1,828
Bergen Oil & Gas Co., Tulsa	5,359
Berlin & Dumfeld, Tulsa	208
Berry, Geo. D., Coffeyville, Kans.	599
Berry Petroleum Co., Tulsa	40,649
Best, Edward, Nowata	301
Best, F. A., and W. J. Lambert, Tulsa	197
Betty Ruty Oil Co., Broken Arrow	253
Biddle Oil Co., Tulsa	1,278
Big Windy Oil Co., Tulsa	420
Billy Oil Co., Chelsea	196
Bingman, O. A., Okmulgee	773
Bingman, W. B., Okmulgee	680
Bingman, W. B., Trustee, Okmulgee	418
Bingman-Smith Oil Co., Okmulgee	3,896
Bird, Creek Oil & Gas Co., Tulsa	1,254
Bird, Gaffney & Simons, Bradford, Pa.	1,784
Bisett, Lytle & Gray, Tulsa	5,497
Bishop Oil Co., Tulsa	149
Black, J. J., Phoenix, Ariz.	149
Black, John R., Corsicana, Tex.	152
Black, O. C., Tulsa	1,694
Black Gold Producing Co., Tulsa	1,751
Black Panther Oil & Gas Co.—Turner & Stone, Trustees, Okla. City	21,825
Black, Sivalls & Bryson, Inc., Bartlesville	17,647
Blackstone Oil Co., Tulsa	1,129
Blackwell Oil & Gas Co., Blackwell	408,501
Blekeslee, H. W., Nowata	1,677
Bloch, J. H., Tulsa	506
Blubaugh, Geo. I., Coffeyville, Kans.	53
Board, M., Muskogee	1,019
Boeache, F. W. C., Coffeyville, Kans.	185
Bole, Geo. S., Tulsa	27,466
Boles, Neal & Perry, Cleveland	717
Bolivar Run Oil Co., Tulsa	1,368
Bonifield, H. A., Elmore City	375
Boop, Sliz, Glass & Calvert, Nowata	63
Borealis Oil Co., Oklahoma City	110
Bovaird, W. M., Sapulpa	8,700
Boys, Alex, Okmulgee	424
Braden Co., The, Tulsa	18,835
Braden, C. E., Tulsa	244
Braden-Beren, Eldorado, Kans.	918
Bradfield, C. H., Receiver, Tulsa	4,019
Bradley, E. A., Anna, Arch E., Tulsa	1,554
Bradnorking Oil & Gas Co., Tulsa	671
Bradstreet, J. G., Muskogee	144
Bradstreet, J. G. & Co., Tulsa	476
Bradstreet, L. G., Tulsa	303
Brady, E. H., Tulsa	2,421
Brady, E. H., Tulsa; Fred Swanson, Estate, Chanute, Kans.; John Swanson and Dan Kelly, Marietta, Ohio	2,158
Brann, Jas., Bartlesville	3,536
Brann, Jas., Receiver, Bartlesville	926
Branson & Harmon, Nowata	1,125
Brecht, W. H., Broken Arrow	2,292
Breene, Frank M. et al, Tulsa	4,427
Breene, Frank M., Trust Estate, Tulsa	37,816
Breene, Mabel V., Tulsa	47
Brewer, R. P., Trustee, Tulsa	10,983
Bridgman, Welsh & Haner, Muskogee	1,029
Bright, Samuel, Okmulgee	1,295
Brittain, R. E., Oklahoma City	10,189
Britton-Johnson Oil Co., Tulsa	12,911
Brock, Chas. N., Okmulgee	775
Brock, John L., Jr., Okmulgee	5,693
Brothers Oil Co., Inc., Tulsa	82
Brown, Chas. H., Oklahoma City	44
Brown, Guy Oil Co., Wichita Falls, Tex.	4,642
Brown, L. H., Butler, Pa.	82
Brown, Robert D., Trustee, Kansas City, Mo.	2,940
Brownlee, Mitchell & Kellough, Tulsa	584
Brundred Oil Corp., Oil City, Pa.	1,821
Bruner, A., Tulsa	281
Bruner Oil Co., Independence, Kans.	396
Bucher, P. O., Bartlesville	510
Buckles, C. O., Tulsa	1,510
Bull Head Oil Co., Ardmore	1,061
Burke & Greis, Tulsa	634
Burke-Grles Oil Co., Tulsa	84,255
Burke-Hoffeld Oil Co., Tulsa	17,204
Burks, R. J., Shawnee	293
Burns, J. R., Lawton	152
Burton, Dan A. and W. Dickerson, Tulsa	169
Burton-Springfield Oil Corp., Tulsa	5,693
Bushfield & Co., Chelsea	253
Butler, A. B., Guardian, Oklahoma City	1,854
Butler & Johnstone, Oklahoma City	205
Buttram, Frank, Oklahoma City	62,374
Buttram Petroleum Corp., Oklahoma City	110
Bu-Vi-Bar Petroleum Corp., Bristow	1,205
Byers, M. S., Guardian, Nowata	20
Bynum, Maude A., Anna Bradley, Irene Hildreth, and Edith Parr, Tulsa	1,317
C	
Cabin Valley Mining Co., Chelsea	2,150
Callahan Oil Co., Omaha, Nebr.	337
Callihan, W. F., Sapulpa	490
Cameron Refining Co., Ardmore	51,094
Campbell, H. L., Nowata	1,700
Campbell, H. L., Trustee, Nowata	520
Campbell, J. A. No. 2, Tulsa	297
Campbell, Nevlin, Bartlesville	204
Campbell, Oil Co., Tulsa	4,536
Campbell & Byers, Cherryvale, Kans.	593
Campbell & Smith, Bartlesville	90
Campbell & Wolford, Tulsa	1,076
Canary, E. L. and A. J., Caney, Kans.	2,316
Canary, J. D., Littleton, Colo.	5,085
Canary, S. C., Tulsa	9,958
Canary & Canary, Littleton Colo.	2,309
Carder, A. E. et al, Coweta	1,175
Carey Oil & Gas Co., Wellsville N. Y.	666
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Carlock, J. H. Trustee, Ardmore	9,100
Carlock & Dexter, Ardmore	3,338
Carner, Akin & Argue, Bartlesville	906
Carpathia Petroleum Co., Tulsa	21,658
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Carpenter & McClung, Sapulpa	275
Carr, J. M., Okmulgee	10,536
Carr, M. L., Okmulgee	150
Carson, B. D., Cleveland	1,776,804
Carter Oil Co., The, Tulsa	

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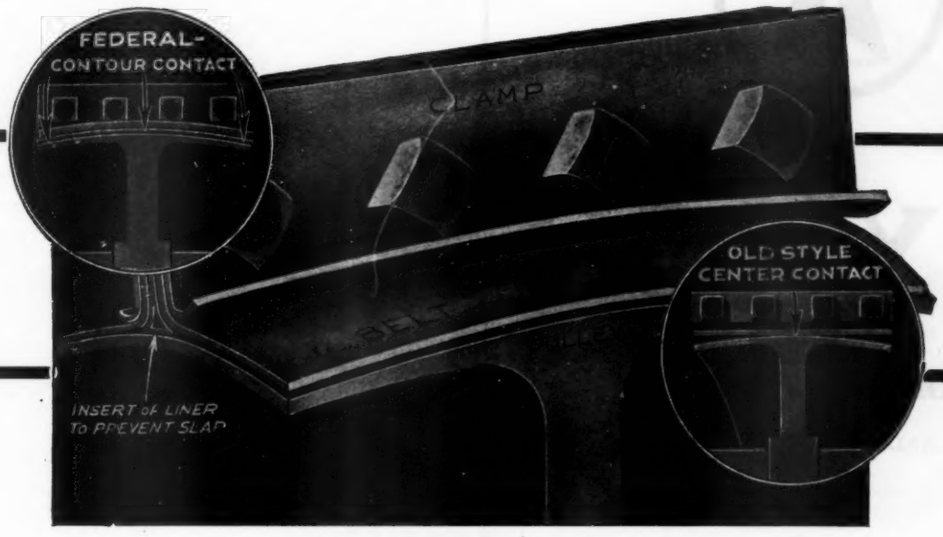

Patent No. 1536278, May 5th, 1925

"The Curve on the Clamp Fits the Crown on the Pulley"

Six Reasons Why You Should Use
Federal Belt Clamps

1. The old style belt clamp as shown in lower right hand corner of illustration, with straight bars and sharp edges, cuts the belt on the pulley side every time it passes over the pulley. These cuts permit air to enter the plys of the belt and each additional blow as the belt passes over the pulley forces air farther into the plys thus forming air pockets and causing bootlegging.

2. Every FEDERAL BELT CLAMP is made with a curve on the face to correspond with the crown on the belt pulley, thereby preventing side slip on pulley and keeping the belts from sliding on shoes of clutch.

3. The "liner" inserted between clamps as shown in illustration holds the belt firmly against the curve on the outside clamp and forms an uninterrupted curved surface fitting smoothly against pulley.

4. FEDERAL BELT CLAMPS are made of pressed steel, drilled and fitted with ⅝-inch HEAT TREATED STEEL BOLTS and lock washers.

5. By using FEDERAL BELT CLAMPS you eliminate all your clamp troubles, prevent bootlegging in your belts, increase their efficiency and prolong their usefulness.

6. There are imitations and infringements on the market— as a protection to our customers we warn you that unless it is a FEDERAL BELT CLAMP, it is an inferior product.

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Miners Oil	Pale Oils
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Engine Oils	Asphalts
Dynamo Oils	Road Oils
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Chamberlain, H. G., Marietta, Ohio 312
Champlin Refining Co., Enid 14,353
Chapman, O. H., Waxahachie, Tex. 602
Chestnut & Smith Corp., Tulsa 9,609
Chic-Osage Oil & Gas Co., Tulsa 406
Chief Bigheart Oil & Gas Co., Wichita, Kans. 58
Chief Drilling Co., Okmulgee 25
Choctaw Oil Producing Co., Tulsa 833
Cimarron River Oil & Gas Co. Oklahoma City 4,192
Clarin Oil Co., Houston, Tex. 4,800
Clark, H. E. et al, Okmulgee 10,743
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Clark, W. L. et al, Bristow 3,325
Clarke, Maurice G., Muskogee 247
Clifton & Wise, Sapulpa 54
Cline Oil Co., Wichita Falls, Tex. 157
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Cobb & Hollingsworth, Ardmore 706
Cobleigh & Shipman, Bartlesville 467
Coe, R. W., Ardmore 1,908
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Cohen, Aaron, Baltimore, Md. 2,205
Cohn, M. M. and D., New York, N. Y. 46
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Cole Oil Co., Tulsa 70
Coleman, Peter, Guardian, Clarence Friday, Beggs 3,120
Coline Oil Co., The, Oklahoma City 168,051
Collins, Ida M. and Ray M., Tulsa 739
Collins Mortgage Co., Kingfisher 33
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Commonwealth Oil Co., Warren, Pa. 1,203
Compton, O. W. et al, Independence, Kans. 388
Connelly, E. A., Tulsa 1,023
Connelly, E. L., Tulsa 130
Connelly, E. L. et al, Tulsa 5,099
Connelly, G. W., Caney, Kans. 1,965
Connelly, W. C., Tulsa 517
Conner, B. C., Tulsa 17
Constantine, C. Pawhuska 729
Continental Asphalt & Petroleum Co.—C. O. Johnson, Receiver, Durant 5,575
Continental Oil Co. (Formerly Mutual Oil Co.), Denver, Colo. 151,970
Continental Oil Co., Oklahoma City 18,601
Continental Oil & Refining Co., Independence, Kans. 2,880
Continental Supply Co., St. Louis, Mo. 2,229
Cook, Geo. W., Lawton 1,559
Coombs Oil, Gas & Land Co., Bartlesville 1,415
Cora Exploitation Co., St. Louis, Mo. 798
Coranado Oil & Gas Co., Cleveland 3,573
Corbin & Haner, Tulsa 3,029
Corona Oil Co., N. T. Gilbert and Julius M. Mayer, Receivers, Tulsa 4,677
Correne Oil Co., Tulsa 1,982
Corry, L. L., Fresno, Cal. 51
Cortez Oil Co., Tulsa 18,063
Cosden Oil & Gas Co., Tulsa 1,087,165
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Cotton Belt Petroleum Co., N. T. Gilbert, Tulsa 42,820
Cowles, La Monte, Burlington, Iowa 310
Crandall, Hector et al, Title Guarantee & Trust Co., Trustee, Tulsa 190
Crawford, J. W. R., & Sons, Inc, Tulsa 439
Creekmore, Morrison & Wolfe, Tulsa 252
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Crockett, Elizabeth R., Oklahoma City 33,619
Crosbie, Davis, Sloan & Sturm, Tulsa 2,156
Crosbie & Gillespie, Tulsa 3,772
Crosbie, Sturm & Davis, Tulsa 3,008
Crosby Drilling Co., Inc., Olean, N. Y. 322
Crews Estate Oil & Gas Production, Enid 32,916
Cruce & Potter, Ardmore 1,293
Cruce-Smith-Cruce, Ardmore 2,760
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Cuckow, C. J., Steedham 525
Cudahy Oil Co., The, Cleveland, Ohio 26,003
Cumberland Petroleum Co., Cleveland, Ohio 32,880
Curtis & Aiken, Tulsa 512
Curtis, W. C. Co., Elmira, N. Y. 136
Curtis, W. L., Co., Elmira, N. Y. Inc., Elmira, N. Y. 136
Cusack, F. E., Okmulgee 1,455
Custer Oil Co., Okmulgee 972
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Dallas Co., Tulsa 1,049
Damme-Pringle Oil & Gas Co., The, Okmulgee 4,656
Damon Oil Co., Tulsa 807
Dana Oil Co., Bartlesville 2,058
Danciger Oil & Refining Co., Tulsa 1,016
Dannenberg, N. B., et al, Chelsea 434
Dannenberg, S. E., Exec., Chelsea 1,287
Davis, C. P., Bristow 375
Davis, Joseph D., Tulsa 1,819
Davis, L. R., Tulsa 226
Davis, R. D., Cleveland 1,233
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Deems, H. C., Tulsa 1,339
Deep Fork Oil Co., Marietta, Ohio 2,780
Deep Rock Oil & Refining Co., Tulsa 1,206
Delaware-Cherokee Oil Co., Dewey 29,499
Delmar Oil Co., Bartlesville 3,090
Delokee Oil & Gas Co., Bartlesville 88,971
DeLong, R. J., Cleveland 417
De Soto Gasoline Co., Houston, Tex. 110
De Vinna, M. A., Tulsa 1,301
Devonian Oil Co., Tulsa 478
De Watt Oil & Gas Co., Okmulgee 41,050
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Diamond, Harry H., Oil Co., Holdenville 452
Dickerson, O. W., Oil Co., Oklahoma City 2,641
Dierks, Fred H., Trustee, Kansas City, Mo. 326
Dilley, W. Y., Trustee, Waurika 1,370
Dixie Oil Co., Cement 1,617
Dixie Oil Co., Inc., Shreveport, La. 5,334
Dixon, H. O., Bartlesville 143,361
Doak, James, Cushing 3,712
Dock Oil & Gas Co., Bartlesville 1,286
Dodd, Wm. A., Tulsa 734
Donahoe, J. J., and Mabel, Ponca City 244
Donahoe, Leo C., and F. S. Stryker, Tulsa 6,615
Donahoe, J. L., Tulsa 6,642
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Donohue, W. J., & K. D., Bartlesville 6,514
Doris Oil & Gas Co., Tulsa 63
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Dover Oil Co., Bartlesville 81
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Doyle, Pearl Keys, Kansas City, Mo. 2,873
Drake Oil Co., Tulsa 350
D. & S. Oil Co., Tulsa 7,750
Duffield, Lewis C., Tulsa 1,340
Duffield, L. C., and H. R. and Katherine Straight, Tulsa 752
Duffield, R. S., Okmulgee 5,304
Duffield, Berlin & Moore, Tulsa 70
Duffield & Howard Oil Co., Tulsa 601
Dunn Oil Co., Tulsa 3,240
Dunn Mineral Trust, Ardmore 370
Dunnington, A. S., Tulsa 4,334
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Eagle-Picher Lead Co., The, Henryetta 6,949
Eason, T. T., Enid 7,464
Eastern Oil Co., Buffalo, N. Y. 229
Ebling, L. R., & Co., Bartlesville 156,750
Echo Oil Co., Tulsa 1,750
Eliza Tims Oil Co., Sapulpa 32,970
Elk Producing Co., Tulsa 360
Ellen Oil & Gas Co., Tulsa 1,361
Elliott, W. C., Tulsa 4,290
Elliott & Smith, Tulsa 254
Elliott & Vensel, Tulsa 6,582
Ellis, M., Tulsa 10,448
Elm Oil Co., Tulsa 6,940
Elmer Oil Co., Elmira, N. Y. 5,670
Emery Brothers, Bradford, Pa. 2,836
Emery, Lewis, Jr., & Sons, Bradford, Pa. 2,935
Empire City Co., Tulsa 11,324
Empire Gas & Fuel Co., Bartlesville 1,559
Enfisco Oil Corp., Tulsa 290,637
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Enterprise Transit Co., Titusville, Pa. 336
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Essano Oil Co., Tulsa 3,540
Estey, S. C., Sand Springs 666
Ethelyn Oil & Gas Co., Omaha, Neb. 83
Evidence Oil Co., Caney, Kans. 3,558
Exchange National Bank, The, Tulsa 370
Exchange National Bank of Tulsa, Tulsa 1,165
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Exchange Trust Co., Receiver, Tulsa 1,374
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Faltinson, A., Tulsa 2,531
Fan-Elva Oil & Gas Co., Pittsburgh, Pa. 7,188
Farmer, A. L., and A. E. Duran, Tulsa 2,660
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Farren, C. F., Tulsa 215
Fay Drilling Co., Tulsa 4,427
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Fee Oil Co., Muskogee 124
Fellows, Ray S., Tulsa 63
Fellowship Oil & Drilling Co., Tulsa 250
Fern Oil & Gas Co., Yale 150
Fewel, Green A., Muskogee 4,593
Fidelity Oil Corp., Louisville, Ky. 170
Fidelity State Bank, Cleveland 1,195
Fifty-Nine Osage Co., Bartlesville 20
Finance Oil Co., Pawhuska 44,760
Finance Oil Co. and Livingston Oil Co., Pawhuska 22,430
Finch, F. L., Tulsa 950
First National Bank No. 3, Cleveland 1,441
First National Bank No. 17, Cleveland 25
First National Bank, Trustee, Coweta 92
First National Bank, Coweta 250
First National Bank, Dewey 675
Fisher Oil Co., The, Pittsburgh, Pa. 525
Fitzgerald, D. C., Trustee, Ardmore 490
Fitzgerald, H. L., Tulsa 6,472
Fitzgerald & Withington, Tulsa 1,383
Flanagan & McGrath, Delaware 215
Flat Rock Oil Co., Tulsa 1,586
Fleming & Beard, Chelsea 271
Fleming, Martin C., Tulsa 2,580
Force Oil Co., Tulsa 320
Forster, S. F., Dallas, Tex. 1,182
Fort Ring Oil & Gas Co., Fort Worth, Tex. 5,934
Fortuna Oil Co., Dallas, Tex. 412,612
Foster & Davis, Inc., Bartlesville 12,776
Foster, H. V., and C. F. Leech, Bartlesville 367
Foster Investment Co., Tulsa 43,696
Foster Petroleum Corp., Bartlesville 12,216
45 Oil Co., The, Chicago, Ill. 6,555
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Franchot, D. W. & Co., Tulsa 26,413
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Gaffney, H. E., Estate and Olive Gaffney, Bradford, Pa. 967
Gaffney, H. E., Estate and H. B. Gaffney, Bradford, Pa. 2,004
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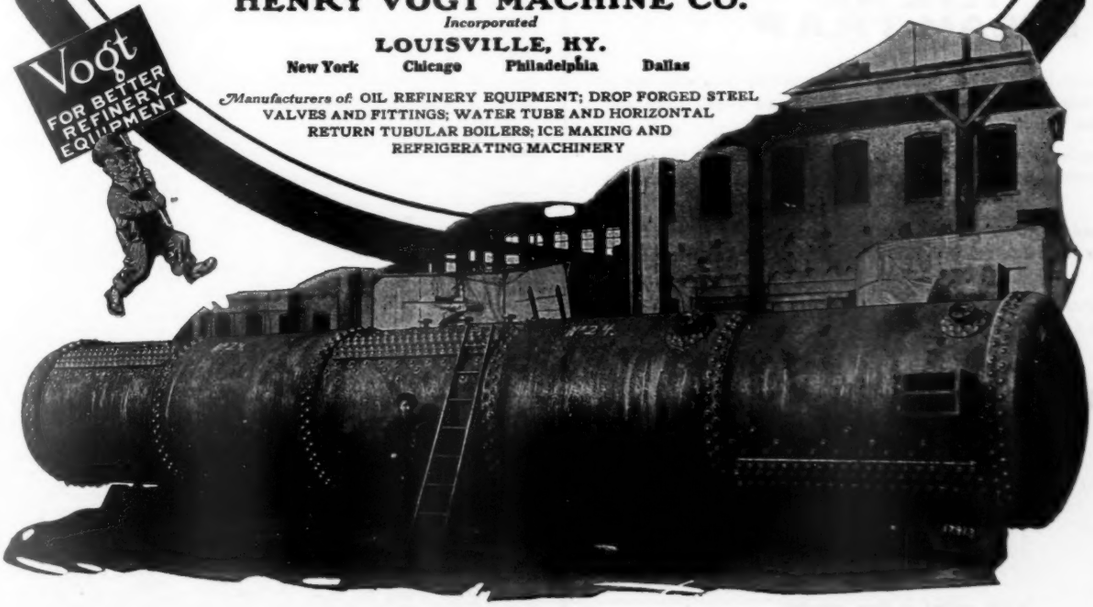

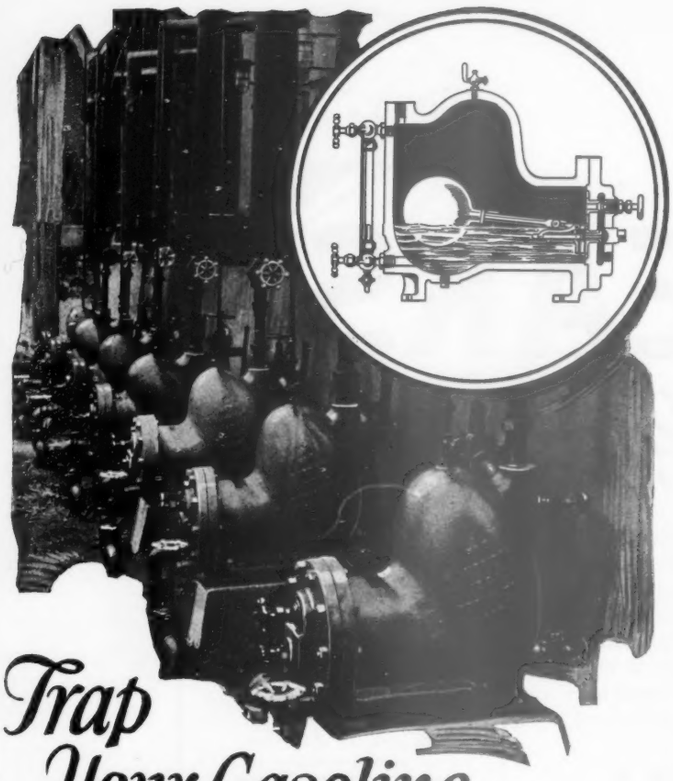

Trap Your Gasoline

Illustration shows American Ideal Traps in the Absorption Tower of the nautral gasoline plant of Palmer Corp., Schwartz, La. These traps are used to trap gasoline from the absorber and to catch the residue gas passing back to absorber, where it is again picked up by the mineral seal spray and the gasoline absorbed by same.

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Galt, Edward, Ardmore	473
Garis, Ralph, Chelsea	62
Gant, Walter H., Ardmore	7,054
Gardner & Avery, Tulsa	255
Gardner, H. N., Tulsa	596
Gardner, J. K., Okmulgee	2,321
Gardner Oil Co., Tulsa	79
Gardner Petroleum Co., Tulsa	37,193
Garnett, M. R., Agent, Nowata	154
Gates-Cook Drilling Co., Okmulgee	486
Gates Oil Co., Ardmore	31,681
Gates Oil Co., Denver, Colo.	203
Genevra Oil Co., The, Bartlesville	401
Geneva Pearl Oil & Gas Co., Ardmore	3,536
Georgia Oil & Gas Co., Copan	2,999
Getty, George F., et al, Tulsa	733
Getzendaner, R. W., Waxahachie, Tex.	1,538
Gibson, W. A., Haskell	70
Gibson-Zahniser Oil Corp., Tulsa	39,462
Giddings, F. C., W. H. Gray, A. B. C. Dague, Chas. F. Egan and R. A. Welsh, Tulsa	693
Gilchrist, H. M., Estate, Bartlesville	1,000
Gill, A. J., Okmulgee	275
Gillespie, F. A., & Sons Co., Tulsa	275
Gillespie, Joe, Coffeyville, Kans.	82
Gillette, J. M., Tulsa	1,492
Gilliland Oil Co., Tulsa	60,817
Gilmer Oil Co., The, Ardmore	35,919
Gilmer Oil Co., Lamine, Mo.	149
Glidden, H. P., Tulsa	599
Gladys-Belle Oil Co., Tulsa	34,950
Glass, J. Wood, Nowata	436
Glass & Harmon, Nowata	4,263
Glass, Reed & McSpadden, Nowata	248
Glass & Weaver, Nowata	78
Gled Oil Co., Tulsa	1,581
Goble, B. G., Tulsa	1,149
Goddard, C. B., Ardmore	2,875
Godfred, F. L., Enid	1,184
Goforth, W. A., Receivers, for Meridian Pet. Corp., Tulsa	25,107
Goldie Oil & Gas Co., Kansas City, Mo.	1,392
Goodyear Oil Co., Tulsa	2,214
Gordon, Mary Louise, Beverly Hills, Cal.	1,510
Graham Mineral Trust, Ardmore	3,789
Graham, James H., Bartlesville	8,932
Grand Duke Producing Co., Muskogee	581
Gray Oil Co., Tulsa	6,275
Griffin Producing Co., The, Tulsa	2,990
Grimes, Blair, et al, Tulsa	508
Grimes, Elliott, et al, Tulsa	177
Grimes, Elliott & Blair, Tulsa	140
Grieves, John B., Terlton	6,750
Grimes, W. Baker, Tulsa	278
Grimes & Gillespie, Tulsa	15,151
Grimes, Parent, Gillespie & Dickson, Tulsa	160
Greenfield Trust, Rock Island, Ill.	1,026
Greenwalt, H. L., Okmulgee	332
Gregg, C. O., Ardmore	4,941
Guardian Oil Co., Inc., Tulsa	8,099
Gypsy Oil Co., Tulsa	3,258,524

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Halden Oil Co., Tulsa	697
Hall, C. R., Bartlesville	2,311
Hales, W. T., Oklahoma City	97,575
Haley, E. J., Okmulgee	53
Haley, Garber & Pulse, Enid	2,371
Halfast, E. W., Muskogee	271
Halfmoon Oil Co., Bartlesville	900
Hall, G. A., Bartlesville	66
Hall, John M., Tulsa	266
Hall & Briscoe, Inc., Chickasha	10,105
Halsell & Son Oil & Gas Co., Vinita	1,064
Hambro Oil Co., St. Louis, Mo.	1,396
Hamburger Brothers, New York, N. Y.	80
Hamill, A. W., Tulsa	268
Hamilton, W. R., Dewey	1,298
Hammat, D. M., & Co., Tulsa	1,097
Hamon, Jake L. Estate, Ardmore	15,527
Hamon, Jake L., Jr., Ardmore	1,057
Hamon & Colcord, Ardmore	16,352
Hancock, W. E., Tulsa	119
Hancock Oil Co., Tulsa	477
Hancox, T. H., Tulsa	488
Hand, H. M., Tulsa	73
Hane, C. E., Agent, Tulsa	7,132
Haner, F. A., Tulsa	1,513
Haner, J. L., Muskogee	180
Haner Oil & Ref. Co., Muskogee	185
Haney and H. C. Ewers & Sons, Peru, Kans.	218
Haney, Phil P., Coffeyville, Kans.	175
Hanks, G. T., Broken Arrow	414
Hannis Oil Co., Tulsa	283
Harland Oil Co., Pittsburgh, Pa.	33,737
Harmon, C. C., Nowata	1,678
Harmon, W. J., et al, Okmulgee	7,002
Harrington, Lillian F., Tulsa	269
Harrington, Lillian F., No. 4, Tulsa	218
Harrington, Wm., Marietta, Ohio	155
Harrington, W. J., Coffeyville, Kans.	1,928
Harris, Lucinda C., Rising Sun, Ind.	181
Harris, T. D., Trustee, Okmulgee	34
Harris-Haun & O'Shaughnessy, Blackwell	1,251
Harris-Hays Co., Okmulgee	1,384
Harris-Strawn Oil Co., Ardmore	4,012
Harwell, E. P., Tulsa	8,750
Hartz, Ben, Baltimore, Md.	358
Haskell, F. K., Bartlesville	125
Haskell, F. K., Agt., Bartlesville	941
Hastings, W. T., Marietta, Ohio	312
Hatch, G. W. Nowata	212
Haubert, H. J., Tulsa	356
Hawkins, G. E., Tulsa	130
Hawley, S. DeZell, Tulsa	56
Hayden, John F., Tulsa	1,022
Hays Oil Co., The, Oil City, Pa.	675
Hazen, S. P., Tulsa	138
Hazlett, A. Z., Morris	1,250
Hazlett, Bradford & Frazier Bros. El Dorado, Kans.	2,658
Hazlett, Robert H., et al, El Dorado, Kans.	535
H. C. W. Oil Co., Chelsea	478
Healdton Oil & Gas Co., Enid	128,704
Healdton Field Oil Co., El Reno	973
Heenan, J. A., Ardmore	1,908
Hefner Co., The, Ardmore	1,090
Heggem & Davis, Tulsa	1,884
Helena Oil & Gas Co., Tulsa	30,465
Henderson Co., The, Tulsa	183
Henderson & Holden, El Dorado, Kans.	994
Hendricks, H. G., Bristow	210
Hendricks, Ida, Tulsa	96
Hendricks, J. I., Tulsa	98
Hennessey, J. E., Okmulgee	1,331
Hennessey, J. E., and J. H. Thompson, Okmulgee	41
Henry Oil Co., The, Tulsa	12,791
Henry & Avera, Tulsa	947
Henson Producing Co., Tulsa	1,343
Henton, E. L., et al, Chelsea	1,120
Henton & Weible, Chelsea	460
Herbert Oil Co., Fort Worth, Tex.	3,695
Hertzel, F. E., Warren, Pa.	1,580
Hewitt Mineral Trust, Ardmore	1,370
Hibbard, S. B., S. S. Glasscock, John R. Hammond, Trustees, Kansas City, Mo.	1,955
Hickernell, G. W., Warren, Pa.	620
Hickman, L. D., Arkansas City, Kans.	300
Higgins Oil & Fuel Co. and Pulaski Oil Co., Tulsa	3,866
Highway Oil Refg. Corp., Tulsa	1,684
Hill Oil & Gas Co., Tulsa	144,470
Hillside Oil Co., Tulsa	5,017
Hillside Oil & Gas Co., Aurora, Ill.	965
Hilltop Oil Trust, Ardmore	5,462
Hinerman & Marshall, Tulsa	4,994
Hinkle, Fitzgerald & Westheimer, Ardmore	5,200
Hippodrome Oil Co., Tulsa	797
Hiram Oil & Gas Co., Kellyville	1,423
Hiteshew, W. B., Trustee, Robinson, Ill.	457
H. & M. Petr. Co., Tulsa	995
Hockensmith, R. A., Okmulgee	850
Hoefer, C. C., Kansas City, Mo.	49
Hoffbauer, M. H., Tulsa	231
Hoffer Oil Corp., Fort Worth, Tex.	8,049
Hoge, J. B., Nowata	372
Hollis, Elsie B., Los Angeles, Cal.	112
Holly Oil & Gas Co., Tulsa	7,761
Holmes Oil Co., Tulsa	2,981
Holtzendorff, C. B., John Q. Adams, Alex A. Dennison, A. D. Tusing, Claremore	73
Holm, Coombs & Chapman, Bartlesville	718
Homaokla Oil Co., Oklahoma City	28,603
Home Gas Co. of Cushing, Cushing	15,211
Hope Petr. Corp., Tulsa	13,581
Hornecker, Henry, Tulsa	735
Hornecker & Graham, Tulsa	462
Hornecker & Hagler, Tulsa	1,791
Hornecker, Miller & Dungian, Tulsa	161
Houston Oil Co. of Texas, Houston, Tex.	76,856
Howard, O. R., Tulsa	27,624
Howard Petr. Corp., Tulsa	328
Howard, Duffield & Berlin, Tulsa	6,068
Howarth, Floyd O., Oil & Gas Co., Tulsa	4,987
Huckleberry, J. H., No. 5, Kansas City, Mo.	39
Huddleston, C. T., Okemah	2,431
Hudson Oil Co., Wellsville, N. Y.	149
Hudson, Grimes, et al, Tulsa	499
Hughes, R. A., Cygnet, Ohio	505
Hughes, R. H., Cygnet, Ohio	164
Hughes, T. J., Cushing	425
Hughes & Schwyn, Cygnet, Ohio	438
Hughes, Solether & Brecht, Cygnet, Ohio	344
Hulen, H. E., Bartlesville	1,100
Hulings, F. W., Harlingen, Tex.	523
Hulings, F. W., Trustee, Harlingen, Tex.	243
Hulings, M. C., Tulsa	166
Hulings & Smith, Okmulgee	489
Hull, J. A., Tulsa	195
Hull, J. A., & Co., Tulsa	20,635
Hull, J. D., Tulsa	60
Humble Oil & Ref. Co., Houston, Tex.	280,362
Hummel, Charles S., Chelsea	630
Hummel, Sadie L., Chelsea	234
Humphreys, L. L., Duncan	2,825
Colo.	1,191
Hunt & Grastorf, Colorado Springs Colo.	1,191
Hutch Oil & Gas Co., Kansas City, Mo.	867
Hurford, J. H., Tulsa	348
Hutchinson, P. J. and First National Bank, Tulsa	158
Hurdle, H. J., Mounds	173
Hutchinson, E. A., Trustee, Bartlesville	626
Hutt, E. F., Kansas City, Mo.	154
Hutt, J. E., Kansas City, Mo.	154
Hyden, Arch H., Tulsa	740

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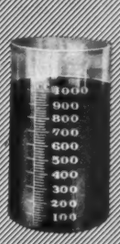
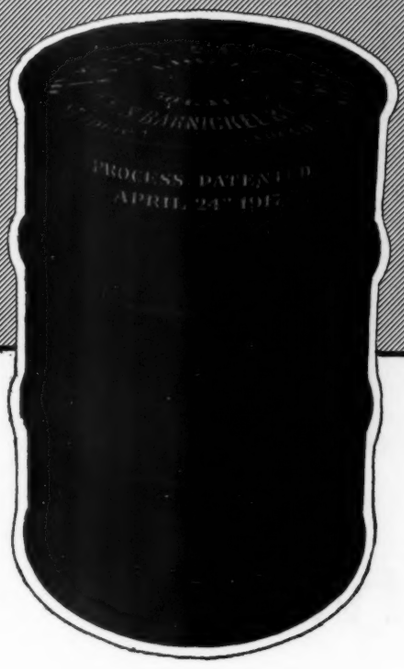
Illinois Oil Co., Chicago, Ill.	1,399
Illinois Refg. Co.-Kawfield Oil Co., Cushing	14,165
Iliata Oil Co., Vinita	135
Imo Oil & Gas Co., Covington	12,368
Independent Oil & Gas Co., Okmulgee	588,753
Indiahoma Corp., The, Okmulgee	31,258
Indian Territory Illuminating Oil Co., Bartlesville	99,032
Indiana Oil & Gas Co., Tulsa	31,799
Interstate Oil & Gas Co., Bartlesville	4,175
Invader Oil Corp., Muskogee	3,658
Iowa Oil & Refg. Co., Hawarden, Iowa	2,622
Irelan, O. M., Sapulpa	2,005
Iron Mountain Oil Co., The, Tulsa	42,725
Irvine, James, Sapulpa	342
Irwin, John S., Bartlesville	346
I. X. L. Drilling Co., Tulsa	390

J

Jackson, L. B., Sapulpa	619
Jackson, S. G., and W. S. Cline, Kaw City	1,532
Jackson-Vowell, Sapulpa	6,320
Jackson, Wise & Bovaird, Sapulpa	1,375
Jackson, Wise & Parr, Sapulpa	125
Jackson, Wise & Markham, Sapulpa	6,755
Jackson, Wise & Snedden, Sapulpa	1,869
Jacobs, Leo, St. Louis, Mo.	1,466
Jacques, Denton, Arkansas City, Kans.	1,565
Jacques, Effie M., Arkansas City, Kans.	1,565
Jane Oil Co., Oil City, Pa.	1,674
Jankowsky, Mose, Tulsa	1,908
Jeff Oil Co., Chelsea	400
Jeffrey, E. B., Trustee, Oklahoma City	2,093
Jelinek, John, Nowata	355
Jennings, E. H., Bros. Co., Pittsburgh, Pa.	3,472
Jennings, Edward H., Est., and E. C. Jennings, Pittsburgh, Pa.	257
Jennings, R. G., Pittsburgh, Pa.	9,880
Jennings, R. G., and Snowden & McSweeney, New York, N. Y.	6,028
Jennie Oil Co., Chelsea	163



BEFORE TREATING



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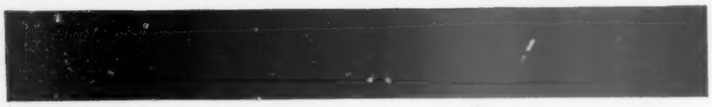

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Jewel Oil Co., Tulsa 82
Jim-Glenn Oil Co., Tulsa 4,182
Jitney Oil Co., Tulsa 96
Johneda Oil Co., Tulsa 33,534
Jolly, W. A., Okmulgee 231
Jones, R. C., & Co., Inc., Cushing 890
Johnson, C. L., Kansas City, Mo. 70
Johnson, T. E., Emporia, Kans. 54
Johnson Oil & Ref. Co., Chicago, Ill. 9,004
Johnson Farm Oil Co., Warren, Pa. 1,008
Johnston, T. A., & Co., Okmulgee 153
Jomac Oil Co., Bristow 78,902
Jordan, E. W., Grove City, Pa. 49
Josey Oil Co., Tulsa 120,211
Judson Oil Co., N. T. Gilbert, Receiver, Tulsa 1,669

K

Kano Oil Co., Nowata 271
Kanola Oil & Refg. Co., L. L. Hutchison, Trustee, Tulsa 3,025
Kansas-Oklahoma Consolidated Oil Co., Minneapolis, Minn. 707
Karnes, H. E., Bartlesville 113
Kathryne Oil Co., The, Tulsa 199
Katy Oil & Gas Co., Bartlesville 1,500
Keener Oil & Gas Co., The, Tulsa 40,315
Keeter, J. A., Atlanta, Ga. 389
Keith, J. H., Coffeyville, Kans. 171
Kelley, Elnora B., Tulsa 111
Kelley, T. G., Trustee, Sapulpa 8,815
Kelley, Thomas C., Sapulpa 975
Kemp, E. R., Deceased, Tulsa 23
Kennedy, H. W., and Pooler Creek Oil & Gas Co., Tulsa 1,280
Kennedy, J. L., Estate, Tulsa 320
Kennedy, J. L. & S. G., Tulsa 3,114
Kennedy, S. G., et al, Tulsa 437
Keno Oil Co., The, Tulsa 1,147
Kerull Oil Co., Tulsa 3,144
Kewanee Oil & Gas Co., The, Titusville, Pa. 114,375
Keys Oil Co., Tulsa 464
Keystone Oil & Gas Co., Independence, Kans. 169
Kidd, W. A., Bartlesville 8
King, F., et al, Okmulgee 1,288
King, Hugh, Jr., Tulsa 2,345
King, John, Receiver, Tulsa 33,931
King Bros., Okmulgee 2,323
King & Harrington, Tulsa 302
King Phillip Oil Co., New Bedford, Mass. 217
Kingsbury, C. W., Tulsa 627
Kingsley, W. L., Kansas City, Mo. 241
Kingwood Oil Co., Okmulgee 270,280
Kinney, George, Tulsa 627
Kinney, George, Trustee, Tulsa 1,487
Kinney, Wood & McIntyre, Tulsa 202
Kirk Oil Co., Ardmore 28,962
Kirkwood & Kennedy, Tulsa 842
Kistler, E. L., Tulsa 2,928
Kline & Brann, Inc., Tulsa 3,434
Knaell, J. C., Tulsa 47
Knappenberger, D. L., Sapulpa 150
Knappenberger, W. E., Tulsa 150
Knickerbocker Oil Co., Tulsa 2,471
Knox & Shouse, Coweta 1,850
Knupp Oil Corp., Warren Pa., Higrade Petr. & Gaso. Co., Tulsa, J. J. Lubell, New York 1,001
Koberling Oil Co., Tulsa 441
Kohlenberg, W. C., Sapulpa 42
Kuhns, J. H., Estate, Tulsa 773

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Lahman Bell Oil Co., Dewey 628
Lambert, E. J., Tulsa 3,637
Lambert Oil & Gas Co., Tulsa 7,678
Lamberton, J. S., Tulsa 378
Lamberton, W. J., Estate, Tulsa 57
Lamberton & Lasater, Tulsa 205
Lancaster & Grimes, Tulsa 473
Landan, A. M., Independence, Kans. 9,485
Lane, E., Nowata 2,345
Lane Oil Prod Co., Chicago, Ill. 3,126
Lane & Wesson, Ardmore 1,639
Large Oil Co., Bartlesville 3,157
Larkin, J. J., Tulsa 540
Larkin Oil Co., Tulsa 66
Larkin & Reynolds, Bartlesville 2,749
Lashley, Edmund, Tulsa 40
Lashley, Theo. G., Boulder, Colo. 425
Latona Oil Co., Tulsa 424
Lathrop, Joe, Ardmore 2,696
Laurel Oil & Gas Co., Tulsa 192,827
Laws, W. E., Broken Arrow 576
Lawson, E. B., Nowata 43,827
Lawson & Griffin Prod. Co., Nowata 202
Lawson & Reed, Nowata 371
Lawson & Whitehill, Nowata 1,657
Lawton Corp., Oklahoma City 1,589
Leahy Oil Co., Tulsa 1,588
Lebow, C. H., Tulsa 3,814
Lebow, R., Charleston, W. Va. 111
LeFever, M. M., Bartlesville 525
Lennox Oil Co., Okmulgee 18
Lennox Oil & Gas Co., Lennox, S. D. 443
Leonard, J. M., Joplin, Mo. 1,254
Leopold & Brett, Muskogee 234
Lesh, J. C., Guthrie 487
Letson Oil Co., Dewey 417
Levant Oil Co., Ardmore 12,422
Levant Oil Co. and Shanver Drilling Co., Ardmore 142
Levy, I. B., Trustee, Oklahoma City 4,547
Lewis-Clarke Petr. Co., Oklahoma City 3,873
Lewis Oil Co., Pittsburgh, Pa. 22,633
Liberty Oil & Gas Co., Warren, Pa. 2,721
Lightning Creek Oil & Gas Co., Wellsville, N. Y. 441
Lima Oil & Gas Co., Bartlesville. 4,609
Lincoln Oil & Gas Co., Tulsa. 2,371
Link Oil Co., The, Tulsa 29,839
Lippa, Arthur, Tulsa 206
Little Fay Oil Co., Tulsa 22,189
Livingston Oil Corp., Tulsa 12,537
Loar, W. N. & Co., Okmulgee 2,790
Local Oil Co., Warren, Pa. 997
Lomore Oil Co., Ardmore 3,468
Lone Star Gas Co., Dallas, Tex. 43,280
Lorraine Petroleum Co., Tulsa 52,836
Louisiana Oil Ref. Corp., Shreveport, La. 2,098
Louvain Oil Co., Bartlesville 1,484
Love, L. H., Ardmore 2,283
Lovell, Dot L., Marietta, Ohio 1,050
Lovell, J. A., Marietta, Ohio 450
Lovett Oil Co., Nowata 1,271
Lowrie & Barnes, Robinson, Ill. 255
Lowry Burns Corp., Muskogee 687
Lowry Oil Corp., Muskogee 4,078
Lucky Leaf Oil & Gas Co., Blackwell 1,367
Lucky Scott Oil & Gas Co., Independence, Kans. 2,116
Ludey, Chas. A., Marietta, Ohio 2,519
Ludowici-Celadon Co., Chicago, Ill. 2,257
Lutner, Thos. R., Lawton 565
Lynch, A. E., Chelsea 853
Lynch, C. B., & Co., Tulsa 889
Lyon, Burt W. and Mary J., Tulsa 836
Lyons, J., Tulsa 30
Lyons, J. & L., Tulsa 1,832
Lyon-Leonard Oil Co., Tulsa 185
Lyon-McKeever, Tulsa 118
Lyons Petroleum Co., Denver, Colo. 12,550

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McAllister, C. T., Sapulpa 71
McBride, Mary I., Tulsa 367
McBride, W. C., Inc., St. Louis, Mo. 1,800
McCarty, C. T., Delaware 114
McClintock, H. H., et al, Bartlesville 2,165
McClintock, R. Otis, Tulsa 472
McConnell, Grace M., Oklahoma City 112
McCormick, J. A., Trustee, Muskogee 1,141
McCormick, Matt, Nowata 109
McCurry, T. W., Morris 225
McDonald, B. P., Pawhuska 380
McDonald, J. H., Muskogeee 611
McDougal, D. A., Sapulpa 194
McFarlin & Chapman, Tulsa 429
McGill, H. R., and Ruth Gilbert, Tulsa 1,681
McGraw, J. J., Tulsa 2,320
McGraw, Baughman & Bearly Lumber Co., Tulsa 675
McGuire, F. H., Guthrie 355
McKeon, P. G., Tulsa 743
McKes Oil & Gas Co., Ardmore 2,156
McLane Farm Oil Co., Tulsa 935
McMahon, C. L., Okmulgee 2,952
McMahon, C. L., & Kennedy, Trustees, Okmulgee 53
McMahon, C. L., Inc., Okmulgee 48,444
McManus, C. T., Nowata 92
McMahon, D. F., Tulsa 19
McMahon, J. L., Wichita Falls, Tex. 59
McMan Oil & Gas Co., Tulsa 91,745
McMillan, W. J., Cleveland 466
McNutt, J. P., Morris 113
McNutt, J. P., and A. L. Davis, Morris 247
McOwen, Bernard, Estate, Buffalo, N. Y. 1,305
McQueen, I. R., Oklahoma City 12,042
McSpadden, T. R., Nowata 153

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Mack Oil & Gas Co., Bartlesville. 498
Madden & Madden, Tulsa 989
Magna Oil & Refining Co., Tulsa. 8,417
Magnolia Petroleum Co., Dallas, Tex. 1,570,335
Maiers, J. F., Tulsa 405
Maire Brothers & Ebling, Bartlesville 2,369
Malernee Oil Co., Walters 10,562
Mallory, J. F., and J. W. Stewart, Parkersburg, W. Va. 456
Mallory, S. T., Tulsa 108
Mallory, S. T., & Co., Tulsa 252
Ma-Lou Oil Co., Pittsburgh, Pa. 2,604
Mancill, H. E., Bartlesville 409
Margay Oil Corp., Tulsa 48,925
Margulies, Larry J., Tulsa 684
Marietta Oil Co., The, Marietta, Ohio 1,688
Mark, Clayton, Muskogee 539
Markham, J. H., Jr., Tulsa 56,992
Markham, J. H., Jr., et al, Tulsa. 1,751
Marland Oil Co. of Okla., Ponca City 250,941
Marland Refining Co., Ponca City 377,235
Marshall Oil Co., Tulsa 186
Martin, C. G., Bristow 1,375
Martin, Emma L., Fresno, Cal. 58
Martin, J. E., Tulsa 1,139
Martin, L. J., Tulsa 290
Martin, R. B., Receiver, Tulsa. 891
Martin, S. A., Oil & Gas Co., Tulsa 871
Mason, D. B., Tulsa 12,914
Mason, Allen, and Newton C. Fassett, Elmira, N. Y. 288
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Matkin, T. H., Bartlesville 500
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Maxey, B. M., Olean, N. Y. 109
Maxson, E. E., Trustee, Owasso. 2,251
Maxwell, D. G., Bartlesville 606
Maxwell, D. G., et al, Bartlesville 867
Maxwell, D. G., and J. W. Thompson, Bartlesville 1,560
May, Max, Tulsa 35
Mechling, C. A., Tulsa 395
Mechling & Berlin, Tulsa 1,468
Merrick, F. W., Ardmore 15,214
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Mexada Oil Co., Ardmore 494
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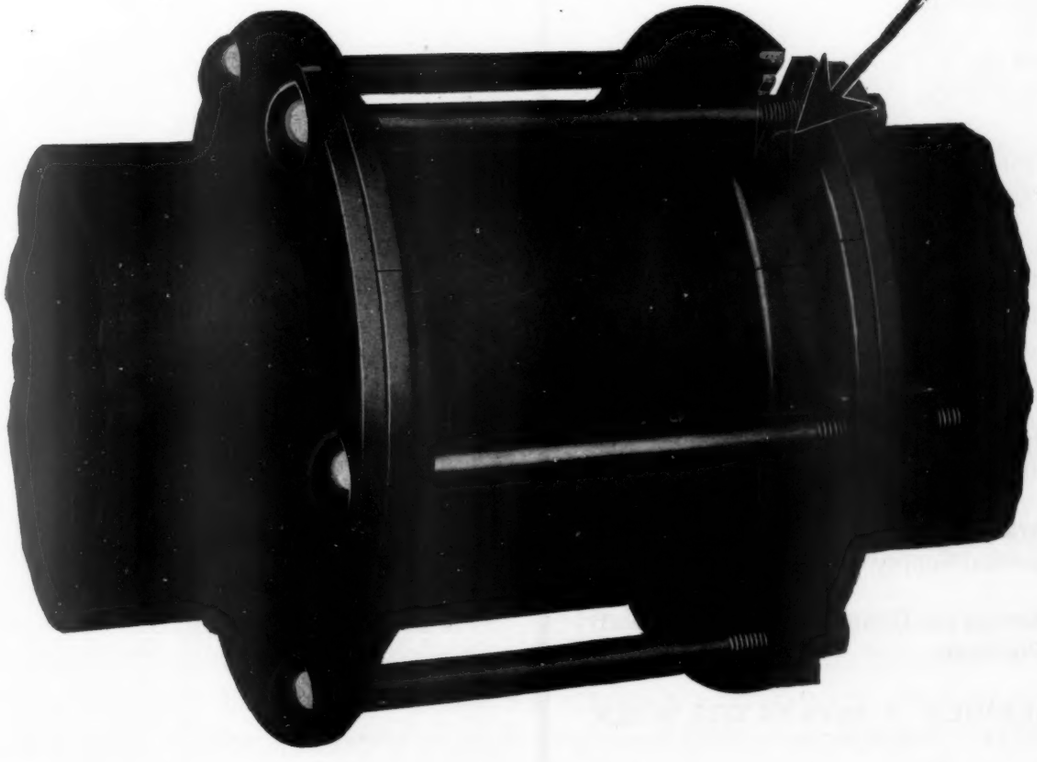
Middleton, H. B., et al, Woodsfield, Ohio 169
Mid-Co. Petroleum Co., T. J. Ellis and Harry W. Gibson, Receivers, Tulsa 23,424
Mid-Kansas Oil & Gas Co., Findlay, Ohio 259,555
Midland Oil Co., Bartlesville. 140,429
Midland Securities Co., Tulsa 9,361
Midwest & Gulf Oil Corp., Tulsa. 873
Mills, John, Marietta, Ohio 94
Milroy Petroleum Co., Duncan 1,216
Minnehaha Oil Co., Menasha, Wis. 590
Minnehoma Oil & Gas Co., Tulsa. 62,086
Minshall, E. R., Tulsa 13,861
Miesener, F. D., Tulsa 18,724
Minshall, E. R. & Co., Tulsa. 6,197
Minshall Oil & Gas Co., Tulsa. 2,888
Mitchell, E. D., and C. D. Jenal, Tulsa 415
Mitchell, Mark D., & Co., Independence, Kans. 736
Mitchell & Murrow, Independence, Kans. 136
Modern Oil Co., The, Wellsville, N. Y. 1,359
Mohawk Petroleum Co., Tulsa 2,937
Monroe, James E., Trustee, Tulsa. 901
Monte Cristo Oil Co., Tulsa 533
Montezuma Oil Co., Tulsa 738
Moon & Holtzendorff, Claremore. 363
Moore, Clint, Tulsa 12,291
Moore, Frank L., Tulsa 5,364
Moore, Mrs. G. E., Tulsa 410
Moore Gasoline Co., Tulsa 74
Morey, E. E., Tulsa 196

It is impossible for flange joints to spread on Dayton Collar Leak Clamps!



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In Liberty Oil Field, by
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Rex Supply Co.

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Sour Lake, Saratoga, Batson Fields, by
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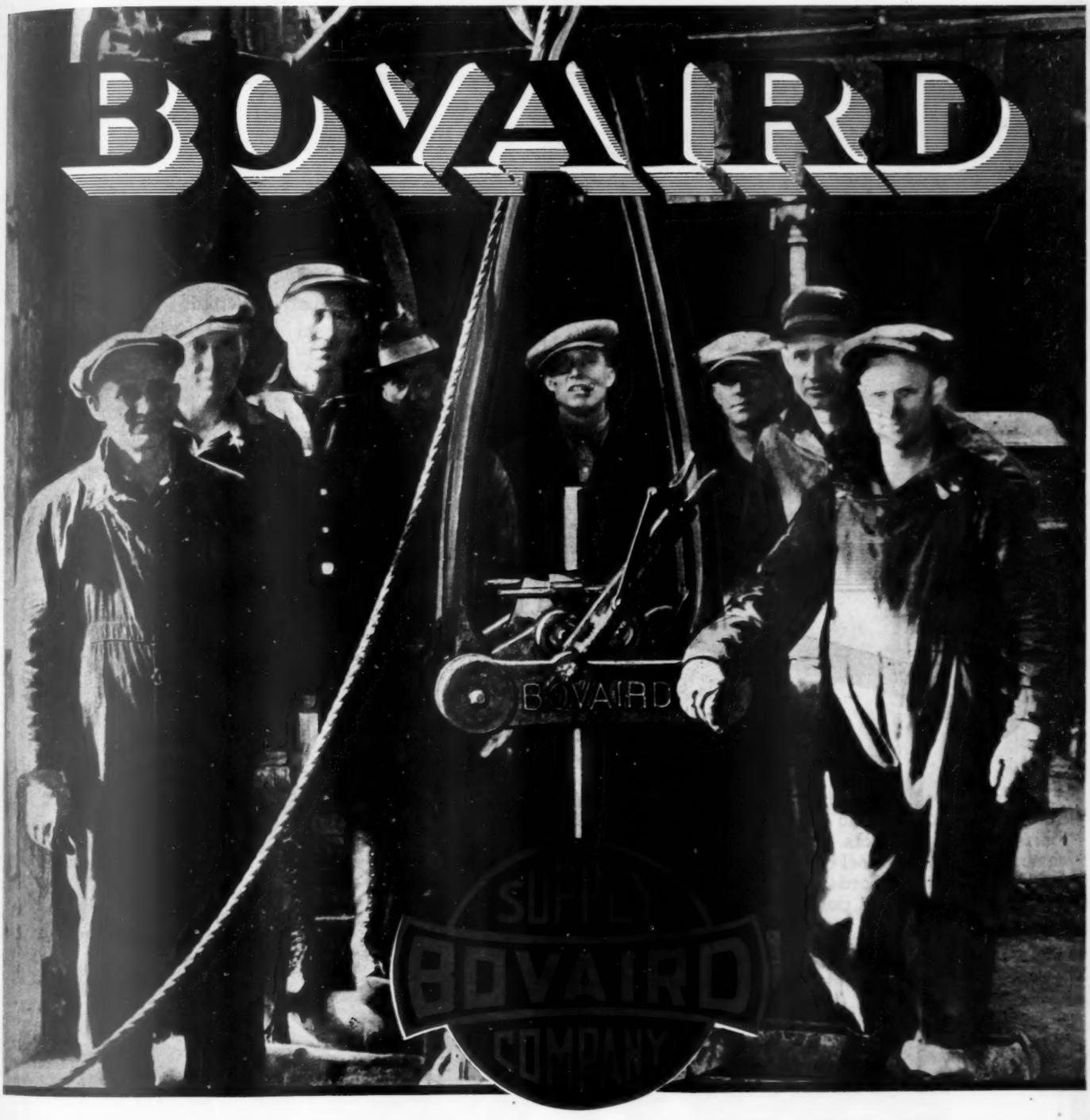
Layne & Bowler Co.
Houston, Texas

Morrison & Jackson, Sapulpa	5,246
Morrison, James B., Tulsa	483
Morriss, G. A., Trustee, Mounds	9,910
Morton & Co., Bartlesville	22,622
Morton Petroleum Co., Bartlesville	2,108
Moseley, C. F., Bartlesville	2,627
Moseley, W. H., Bartlesville	1,475
Mountain Fork Oil Co., Okmulgee	2,239
Mountain State Oil Co., Bartlesville	36,195
M. T. C. Oil & Gas Co., Coffeyville, Kans.	1,800
Mudge Oil Co., The, Pittsburgh, Pa.	19,230
Mullendore, R. F., Hominy	108
Mul-Berry Oil Co., Cushing	3,677
Mullendore, Bessie, Cleveland	217
Mullendore, E. C., Cleveland	42
Mullendore, O. V., Cleveland	175
Murry, John Y., Trustee, Tulsa	325
Murray Brothers, Cleveland	4,310
Muskogee Oil Corp., Muskogee	467
Myers, C. M., Tulsa	468
Myers & Twichell, Okmulgee	6,280
Myers Oil & Gas Co., Pittsburgh, Pa.	375
Myrton Oil Co., Kensington, Md.	66
N	
Nancy Oil Co., Sapulpa	493
National Oil & Development Co., Oklahoma City	9,941
National Petroleum Co., The, Lorain, Ohio	275
National Supply Co., The, Midwest, Independence, Kans.	1,398
National Union Oil & Gas Co., Bartlesville	8,027
Neubeck, W. L., Marietta, Ohio	321
Neustadt, Walter, Ardmore	8,393
New England Oil & Pipe Line Co., Boston, Mass.	36,263
New Haven Oil Co., Bartlesville	1,018
New Pocahontas Oil & Gas Co., Oklahoma City	248
Newton & Pinson, Coweta	325
New Years Oil & Gas Co., Kensington, Md.	331
Nicaragua Oil Co., Freeport, Ill.	1,789
Ninety Nine Oil Co., Tulsa	50
Noble, E. T., Okmulgee	975
Noble Oil & Gas Co., Tulsa	8,352
Noble, Olson, et al, Ardmore	16,208
Nolan, D. D., Chanute, Kans.	50
Nolan-Jackson, Sapulpa	849
Norman, Theo. A., Palmer, Mass.	265
North Baltimore Oil & Gas Association, Okmulgee	5,754
Northland Gasoline Co., Tulsa	4,120
Northrup, C. M., Tulsa	112
Norwood Oil Co., New York, N. Y.	10,991
Nowata Oil & Ref. Co., Tulsa	37,171
Number One Oil Co., N. T. Gilbert and Julius M. Mayer, Receivers, Tulsa	3,872
O	
Obine, W. G., and H. C. Weber, Bartlesville	12,373
O'Connor, Dennis & Sara, Butler, Pa.	319
Octo Oil Co., Bartlesville	411
Odell, C. C., Trustee, Morris	136
Offenbacher, Emile, Tulsa	2,075
Offenbacher Petroleum Co., Tulsa	57
Oglesby, Robert, Tulsa	4,541
Ohio-Osage Oil Co., Hominy, Okla.	3,531
O'Hornett, C. J., Henryetta	1,369
Oil State Petroleum Co., Enid	31,448
Okeh Oil & Ref. Co., Okmulgee	416
Okla-Eastern Oil Co., Tulsa	7,300
Okla-Ken Oil Co., Okmulgee	1,643
Okla-Mexia Oil & Gas Co., Ltd., B. T. Tackett, Trustee, Denver, Colo.	1,443
Okla-Penn Oil Co., Bartlesville	1,336
Okla. Petroleum Synd., Okmulgee	1,560
Okla-Texas Refining Co., Grandfield	20,265
Oklarado Oil Co., Okmulgee	664
Oklavania Oil Co., Tulsa	15,082
Okliana Oil Co., Tulsa	7,046
Olean Petroleum Co., Bristow	164,991
Oliphant Petroleum Co., Tulsa	2,342
Omega Oil Corp., Shreveport, La.	848
O'Neil Petroleum Co., Milwaukee, Wis.	66
O'Rourke, Ed, Tulsa	1,747
O'Rourke, E. W., Tulsa	1,747
O'Rourke, Tom, Tulsa	1,747
Osage Allegheny Oil Co., Bartlesville	237
Osage Arrow Oil Co., Ponca City	2,582
Osage Development Co., Bartlesville	9,098
Osage Producing & Ref. Co., Bartlesville	4,507
Oswego Petroleum Co., et al, Tulsa	1,287
Ottawa Oil Co., Wellsville, N. Y.	187
Overton, C. H., Estate, Tulsa	1,469
Owl Oil Co., Loco	12,996
Owsley, D. L., Tulsa	1,063
P	
Page, Chas., Trustee, Tulsa	10,796
Page Oil & Gas Synd., Clarinda, Iowa	1,836
Painter, J. W., Nowata	222
Painter, Stager & Higgins, Nowata	958
Painter & Stager, Nowata	96
Panama Oil Co., Muskogee	1,020
Panhandle Refining Co., Wichita Falls, Tex.	550
Panther Oil & Development Co., Bartlesville	155
Papoose Oil Co., Tulsa	112,006
Papoose-Swindler, Tulsa	21,112
Paraffine Oil Co., Houston, Tex.	9,582
Paragon Oil Co., Tulsa	5,895
Parker, D. F., Trustee, Okmulgee	283
Parks Oil Co., Chelsea	326
Parmenter, L. C., Muskogee	23
Parmenter, W. L., Lima, Ohio	1,892
Parmenter, W. L., No. 2, Lima, Ohio	424
Parrish Oil Co. and Reed, Nowata	2,319
Parson, E. E., Okemah	1,050
Patterson, M. R., Bartlesville	5,964
Patterson, R. A., Muskogee	12
Patterson & Swaim, Bartlesville	306
Pattison Oil Co., Tulsa	7,175
Patton, W. P., Tulsa	488
Pattrell, F., Bartlesville	173
Patsy Oil & Gas Co., Ardmore	2,967
Pauline Oil & Gas Co., Oklahoma City	5,818
Pawnee Osage Oil & Gas Co., Tulsa	2,870
Paxton Oil & Gas Co. and Thedora Oil & Gas Co., Tulsa	354
Pelham Petroleum Co., Tulsa	1,764
Peller & Knight, Okmulgee	180
Penmar Oil & Gas Co., Okmulgee	6,891
Pennok Oil Corp., Tulsa	499,575
Pennsylvania Oil Corp., Warren Pa.	376
Penrod, Thompson et al, Okmulgee	2,194
Pensey Oil Corp., Tulsa	3,455
Perkins, F. E., Tulsa	1,666
Perkins, J. J., Wichita Falls, Tex.	3,339
Peters Leahy Oil Co., Tulsa	789
Peterson, Cleat, Haskell	231
Petroleum Co., The, Tulsa	9,571
Petroleum Co., The and M. H. Mosier, Tulsa	14,836
Petroleum Extraction Co., New London, Conn.	471
Pettigrove, A. H., Dewey	931
Petty, C. S., Guthrie	131
Phillips & Milam, Chelsea	19,446
Phillips Oil Co., Chelsea	3,497
Phillips Petroleum Co., Bartlesville	2,163,941
Phillips, Waite, Co., Tulsa	848,396
Pilgrim Petr. Co., Tulsa	732
Pine, W. B., Trustee, Okmulgee	1,557
Pine W. B., Okmulgee	89,814
Pine, R. D., Receiver, Tulsa	92
Pine, R. D., Okmulgee	675
Pishel, Max A., Tulsa	43
Plains Petr. Co., Tulsa	8,640
Plover Drilling Co., Bartlesville	3,927
Plumb, A. O., Depew	800
Pluto Oil & Gas Co., Dallas, Tex.	661
Plymouth Petr. Co., Tulsa	7,970
Plymouth Petr. Co. et al, Tulsa	10,515
Pollyanna Oil Co., Bagley, Minn.	3,075
Pope & Wilson, Inc., Oklahoma City	134
Post Oak Crude Oil & Gas Co., Logan, Iowa	1,037
Potter Oil Co., New York, N. Y.	3,984
Powell, W. S., Tulsa	150
Powell, W. S., Tulsa	100
Powell & Morrison, Trustees, Muskogee	127
Prairie Oil & Gas Co., Independence, Kans.	1,684,207
Prairie Oil & Gas Co., Trustee, W. M. Graham Oil & Gas Co., Independence, Kans.	6,199
Prescott & Snider, Kansas City, Mo.	117
Price, Ernest, et al, Muskogee	196
Price, Ernest, Trustee, Muskogee	91
Price, H. M., Tulsa	226
Price Oil Co., Pawhuska	5,416
Priddy, W. M., Wichita Falls, Tex.	788
Price, Sylvan S., Tulsa	560
Prince, C. V., Okmulgee	497
Probst, George C., et al, Tulsa	33
Probst, George C., and James B. Morrison, Tulsa	3,450
Producers & Refiners Corp., Denver, Colo.	386,560
Prunty, F. O., Blackwell	804
Pulaski Oil Co., Tulsa	35,981
Pure Oil Co., The, Columbus, Ohio	796,095
Q	
Quinlan, C. P., Tulsa	3,633
Quinlan, Felix, Tulsa	224
R	
Rabbits Foot Oil Co., Davenport, Iowa	6,147
Ramsey, W. R. & W. E., Oklahoma City	39,297
Ramsey Oil Co., Caney, Kans.	4,093
Ranger Gulf Corp., Tulsa	16,175
Rape, B. F., and Grace Pirtle, Newkirk	337
Raycome Oil & Gas Co., Orrick, Mo.	740
Red, Roy D., Tulsa	201
Red Bank Oil Co., Tulsa	55,029
Red Oak Oil Trust, Ardmore	4,377
Reed, H. W., Agt., Nowata	639
Reed & Harmon, Nowata	1,035
Reesman, S. S., Tulsa	287
Regal Oil Co., Tulsa	16,593
Regal Oil Co., Pittsburgh, Pa.	625
Reinhardt, C. H., Chelsea	1,061
Reliance Oil Co., Houston, Tex.	5,482
Reliance Oil Co. of Oklahoma, Houston, Tex.	7,021
Reno Oil Co., Sistersville, W. Va.	2,047
Reno Oil Co. and E. J. Flynn, Sistersville, W. Va.	2,070
Reno Oil Co., P. B. & W. B. Flynn, Sistersville, W. Va.	338
Republic Oil & Refg. Co., Rock Island, Ill.	237
Reynolds Oil & Gas Co., Independence, Kans.	1,211
Rice, T. E., and Frank Brewster, Tulsa	470
Rice Creek Producing Co., Tulsa	388
Richards, A. M., Cleveland	1,530
Richards, George, Wynona	115
Richards, H. M., Cleveland	115
Richmond Gasoline Co., Tulsa	402
Riddle, L. B., Trustee, Mabie L. Riddle Est., Marietta, Ohio	61
Riner, J. J., et al, Nowata	876
Riner, J. J., Agt., Nowata	150
Ringling, John, Ardmore	494
Risk, J. M., Tulsa	90
Riverland Co., Tulsa	89,999
R. & M. Oil Co., Hominy	642
Roberts, C. M., Okmulgee	1,075
Roberts, George D., Muncie, Ind.	3,466
Roberts, W. E., Nowata	553
Robertson, Glass & Harmon, Nowata	699
Robinson, E. L.-Gibson-Zahniser Oil Corp., et al, Tulsa	73,677
Robson, H. J., Wichita, Kans.	275
Rockland Oil Co., Ardmore	63,730
Rood, Foster & Meloy, Bartlesville	1,243
Rose City Oil Co., Emporia, Kans.	655
Ross, Mrs. Alice, Tulsa	46
Ross, C. O., Coffeyville, Kans.	510
Ross, E. A., Tulsa	16
Roth, C. E., Independence, Kans.	3,613
Roumania Oil Co., Ardmore	353
Roxana Petr. Corp., St. Louis, Mo.	784,941
Roxoline Petr. Co., Oklahoma City	1,649
Ruth Buel Co., Bartlesville	2,720
Ryan Consolidated Petroleum Corp., Bartlesville	15,200
S	
Safety First Oil & Gas Co., Duncan	4,133
Samuel, J. B., and W. B. Stewart et al, Robinson, Ill.	500
Sanders Oil & Gas Corp., Tulsa	1,384
Sankey Oil Co., Fort Worth, Tex.	84
Sapulpa Refg. Co., Denver, Colo.	35,394
Sargent, Julia C., Tulsa	910
Savoy Oil Co., Tulsa	25,653
Schaffer, Danner & Snowden, New York, N. Y.	1,190
Schermerhorn, J. B., Minneapolis, Minn.	120,116



Running 6,260 Feet of 4¾ in. at Longmont

The above is a photograph of the crew at the Rollestone test near Longmont, Colorado after running 6,260 feet of 21-lb., 4¾-inch casing. The job was handled with speed and safety with a Bovaird Elevator. These elevators are making good everywhere as they have met the need of the industry, which required better equipment to handle tubing and casing in deep wells.

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CHAMPION DROP FORGINGS

Schermerhorn Oil Co., Tulsa	8,121
Schermerhorn-Young Co., Minneapolis, Minn.	8,833
Schlegel & Shreve, Tulsa	675
Schmidt, George, Est., Tulsa	250
Schmidt, Louis & Louisa K., Sapulpa	471
Schock, James J., Okmulgee	44
Schock, J. J., Oil & Gas Co., Okmulgee	1,564
Schoenfeld, C. H., & Son, Bartlesville	2,574
Schoenfeld & Millikin, Bartlesville	675
Schoenfeld, Chas. H., J. F. Milliken, Geo. C. Probst and Karl M. Probst, Tulsa	512
Schonwald, Dave, Blackwell	8,135
Schonwald, Dave, Receiver, Blackwell	4,449
Scott, Eura, Los Angeles, Calif.	2,490
Scott, W. F., Kansas City, Mo.	283
Scott Bros. Oil Co., Tulsa	530
Selby Oil & Gas Co., Tulsa	30,135
Seagrave, F. S., Baxter Springs, Kans.	152
Sellers, H. M., Bartlesville	434
Sellers, H. M., Receiver, Bartlesville	209
Sewell, O. A., Coweta	975
Shaffer, C. B., Chicago, Ill.	990
Shaffer, C. B., Trustee, Chicago, Ill.	537
Shaffer Oil & Refg. Co., Tulsa	416,352
Shaw, R., Coweta	98
Shear & Marcus Oil Co., and M. Shear, Bradford, Pa.	942
Sheeders, Frank S., Pawhuska	168
Sheeders Oil & Gas Co., The, Pawhuska	2,017
Sheedy, Frank, Independence, Kan.	2,202
Sheets, Alice M., Copan	244
Sheets, E. H., Copan	489
Sheets, Millicent E., Copan	244
Sheridan Oil Co., Tulsa	21,086
Sheridan Oil Co., Trustee, Tulsa	168
Shertzer Bros., Dewey	4,686
Shonk-Crawford Co., Tulsa	1,002
Short, Posey R., Tulsa	579
Short Grass Oil Co., Norton, Kans.	1,224
Showalter & Cutchall, Sapulpa	1,198
Shrewsbury, R. H., Estate, Muskogee	271
Shufflin, M. B., Coffeyville, Kans.	1,180
Shuler & Fischer, Tulsa	1,531
Shulthis, A. W., Estate, Independence, Kans.	1,362
Siaco Oil Co., et al, New York, N. Y.	599
Sidwell Drilling Co., Sapulpa	1,115
Siebler, Ben, Cincinnati, Ohio	151
Siggins-Shope & Co., Coffeyville, Kans.	291
Silurian Oil Co., The, St. Louis, Mo.	88,674
Simack Oil & Gas Co., Wichita Falls, Tex.	119
Simmons Oil Co., Dallas, Tex.	4,391
Simons, G. A., Okmulgee	85,525
Simons, I. D., Tulsa	7,212
Simpson-Fell Oil Co., Ardmore	29,947
Sinclair, E. W., New York, N. Y.	275
Sinclair Oil & Gas Co., Tulsa	1,290,666
Sitrin Bros., Tulsa	7,563
Skeeter Oil & Gas Co., Garber	605
Skelly, W. G., Tulsa	1,840
Skelly Oil Co., Tulsa	1,167,915
Skelly Oil Co., for M. Cassidy Heirs, Tulsa	311
Skelly Oil Co., for F. J. Downey, Tulsa	709
Skelly Oil Co., for R. L. Fitch, Rose Stekoll, H. C. McIntyre and G. W. Groves, Tulsa	97
Skelly Oil Co. for A. T. Ferrell Tulsa	957
Skelly Oil Co. for Arnold H. Goss, Tulsa	957
Skelly Oil Co. for R. G. Smith, Tulsa	709
Skelton, L. S., Estate, Okmulgee	9,188
Skelton-Moore Oil Co., Bartlesville	7,017
Slick, T. B., Clarion, Pa.	1,290,041
Slick Oil Co., Tulsa	1,916
Sloan, E. H., Tulsa	224
Sloan, J. W., Trustee, et al, Tulsa	6,431
Sloan, J. W., Realty Co., Tulsa	1,347
Slyman, Ellis, Bristow	295
Smith, C. R., Estate, Ardmore	9,405
Smith, C. T., Trustee, Okmulgee	3,208
Smith, G. J., Tulsa	23,958
Smith, D. M., Okmulgee	878
Smith, E. T., & Co., Bartlesville	595
Smith, J. T. & Eugene B., Sapulpa	89
Smith, Margaret L. & Charles Robert, Jr., Ardmore	18,639
Smith, Mrs. Mary S. & Marie S. Ardmore	25,415
Smith, P. C., Tulsa	2,315
Smith, R. G., Tulsa	1,375
Smith, Samuel H., Oil Co., Tulsa	324
Smith, T. K., Tulsa	4,547
Smith, Will H., Ardmore	7,068
Smith-Hanlon, Inc., Tulsa	2,207
Smith-Lee Oil & Gas Co., Durant	775
Smith & Steinberger, Tulsa	2,287
Snowden, Danner et al, Tulsa	3,114
Snowden & McSweeney Co., New York, N. Y.	34,093
Southern Oil & Gas Co., Coffeyville, Kans.	2,519
Southwestern Oil, Gas & Coal Co., Independence, Kans.	2,304
Southwestern Petr. Co., Tulsa	789,756
Southwestern Petr. Co., J. A. Lovell, Paul Lovell Est., and W. T. Hastings, Tulsa	1,285
Southwestern Petr. Co., P. H. Lord Est., Chas. S. and Henry C. Lord, Tulsa	2,730
Speary, C. F., Marietta, Ohio	84
Speary, J. M., Okmulgee	94
Speary Bros. & Mills, Marietta, Ohio	4,237
Speirs, A. J., Jenks	553
Sperata Oil Co., Bartlesville	674
Sprague Oil Co., Ardmore	7,275
Spring Oil Co., Independence, Kan.	2,529
Stager, J. A., Nowata	1,265
Stager & Cornelius, Nowata	623
Stahl & Horrigan, M. Gorman, Trustee, Ardmore	912
Stake Oil Co., Independence, Kan.	588
Staley & Wynne, Wichita Falls, Tex.	2,568
Standish Oil Co., Bartlesville	7,721
Stauffer, Ralph D., Tulsa	35
Stauffer, M. T., Agt., Tulsa	149
Stearns Drilling Co., Okmulgee	3,170
Stebbins Oil & Gasoline Co., Tulsa	2,239
Steen, O. D., Oklahoma City	7,632
Steinberger, C. A., Tulsa	1,705
Steinberger & Lucas, Skiatook	718
Stephens, C. S., Coffeyville, Kans.	205
Stephens, W. J., Shawnee	432
Sterling Oil & Gas Co., Tulsa	22,071
Sterling Gas & Oil Co., Columbus, Ohio	672
Stewart, C. E., Independence, Kan.	389
Steyner Oil Co., Bartlesville	19,610
St. Germain, R. J., Tulsa	644
Stine, E. M., Tulsa	488
Stine, J. C., Tulsa	488
Stoner, O. P., Sapulpa	1,749
Stoner Bros., Tulsa	362
Stout, J. M., Trustee, Muskogee	640
Stout, W. E., Parkersburg, W. Va.	306
Striker, John H., Tulsa	164
Strimple, J. A., Janesville, Wis.	428
Stuart, T. S., Trustee, Sapulpa	224
Studebaker, E. H., South Bend, Ind.	238
Studebaker, Ida, South Bend, Ind.	238
Sullivan, C. T., Kansas City, Mo.	53
Sullivan, E. J., and W. C. Dickey Bartlesville	1,045
Sullivan, M. J., Kansas City, Mo.	82
Sunbeam Petr. Co., Tulsa	1,897
Superior Oil Corp., Lexington, Ky.	159,120
Suppes, G. B., R. E., & C. E., Tulsa	10,367
Summit Oil Co., and Sand Fork Gas & Petr. Co., Bartlesville	619
Sure Oil Corp., N. T. Gilbert, Receiver, Tulsa	7,109
Surpass Petr. Co., Tulsa	1,035
Sutherland Petr. Co., Ardmore	7,969
Sutton, George, Prague	1,191
Swain, Guy, Bartlesville	240
Swanson, John, Chanute, Kans., John Swanson, Exec., Chanute, Kans., and Dan Kelly, Marietta, Ohio	1,719
Swastika Oil Corp., Tulsa	570
Sweeney, J. F., Estate, Clara E. Sweeney, Exec'x., Tulsa	124
Sweeney, J. F. & Co., Tulsa	8,679
Sykes, C. E., Ardmore	1,908
T	
Taft Oil Co., Independence, Kans.	2,236
Tait, S. W., Montpelier, Ind.	273
Terrell Co., The, Terrell Tex.	3,100
Terwilliger, C. H., Tulsa	1,725
Test Oil Co., Bradford, Pa.	4,358
Texas Co., The, Production Department, Tulsa	988,023
Texas-Okla. Investment Co., Independence, Kans.	1,555
Texas Pacific Coal & Oil Co., Thurber, Tex.	89,216
Texmex Oil Co., Tulsa	879
Texokan Producing Co., The, Coffeyville, Kans.	99
32nd Oil & Gas Co., Ardmore	3,638
Thompson, J. H., Okmulgee	293
Thompson, J. N., Tulsa	317
Thompson, J. N., W. M., and Roy B., Tulsa	374
Thompson, Milton, Cushing	704
Thompson, Wm. and Roy B., Tulsa	1,996
Thompson Oil & Gas Co., Tulsa	7,918
Thompson & Bailey, Cushing	1,266
Thompson, Jordan et al, Okmulgee	2,321
Thompson & Welder, Cleveland	1,600
Thompson, Welder & Neal, Cleveland	3,700
Thurmond, T. A., Ardmore	2,283
Thurvan Oil Co., Bartlesville	771
Tibbens, C. G., Tulsa	292,891
Tidal Oil Co., Tulsa	398,493
Tidal-Osage Oil Co., Tulsa	258,390
Tiger Mountain Oil Co., Tulsa	5,920
Tiger Petroleum Co., Tulsa	2,605
Titus, C. W. et al, Tulsa	44,884
Todd, E. G., Cleveland	196
Togo Oil Co., Tulsa	241
Trainer Oil & Gas Co., Bartlesville	554
Transcontinental Oil Co., Pittsburgh, Pa.	376,254
Travis, Rose R., Tulsa	177
Traywick, N. E., Okmulgee	112
Trefts, John C. Buffalo, N. Y.	534
Troy, Josie E., Muskogee	93
Troy Oil & Gas Co., Sapulpa	5,228
Trunbo, A. C., Muskogee	12
Tull Oil & Gas Co., Yale	464
Tuloma Oil Co., Tulsa	174
Turman Oil Co.—N. T. Gilbert and Julius M. Mayer, Receivers, Tulsa	44,521
Turner, T. E. and T. C., Mounds	4,166
Tuttle, R. M., Cushing	731
Twin State Oil Co., The, Tulsa	463,891
Tyree Oil & Gas Co., Bartlesville	1,469
Tyler, D. M. et al, Dewey	2,204
Tyrell, H. C., Tulsa	453
U	
Union Drilling Co., Tulsa	235
United Central Oil Corp., Houston, Tex.	26,831
Upp, O. E., Tulsa	1,427
Upp, O. E. et al, Tulsa	607
Urschel, C. F., Oklahoma City	8,722
Urschel, Fiored S., Oklahoma City	8,722
Utah Oil Corp., Okmulgee	4,443
V	
Vance, S. E., Tulsa	992
Van Dall Bros., Bartlesville	1,077
Vandervoort & Hoss, Piatt	1,050
Van Eman, G. L., Jennings	7,961
Van Horn, E., Chelsea	290
Van Horn, R. V., Clifton Forge, Va.,	543
Van Moss Oil Co., Bartlesville	1,170
Vensel, Elliott & Vensel, Tulsa	2,681
Verland Oil & Gas Co., Tulsa	5,106
Vickers, Don, Sapulpa	31
Vicmar Oil Co., Tulsa	4,002
Viersen, A. A., Okmulgee	1,315
W	
Wah-shah-she Oil Co., Bartlesville	7,685
Waid, C. A., Broken Arrow	1,975
Waite, C. L., Los Angeles, Calif.	1,789
Waite, Fannie C., Lon Angeles, Calif.	1,789
Waida Oil & Gas Co., Carlisle, Pa.	7,287
Wilker, P. G., Jr., and O. K. Eysenbach, Tulsa	393
Walker, W. L., Tulsa	63
Wall Oil Co., Tulsa	629
Wallace, F. H., Tulsa	419
Wallace, Harold, Bankrupt,—Chas. S. Lynch, Receiver, Ardmore	4,741
Walsh Oil Co., The, Tulsa	6,631
Ward Oil & Gas Co., Tulsa	3,119
Warner-Caldwell Oil Co., Titusville, Pa.	21,197
Warren Co., Bartlesville	1,920
Warren Oil Co., St. Louis, Mo.	273

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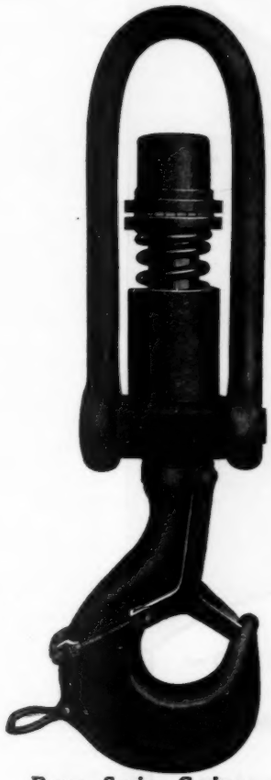

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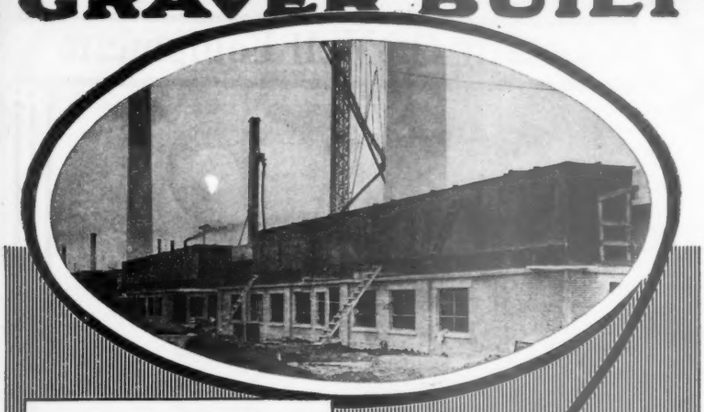

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Wasson & Henthorn, Tulsa	454
Watchorn, Robert, Oklahoma City	12,342
Watchorn Oil & Gas Co., Oklahoma City	530,746
Watkins-McPherson Drilling Co., Healdton	605
Wayne Oil Co., Tulsa	2,562
Weart, J. Foss, Bartlesville	418
Weaver, C. H., Ft. Collins, Colo.	286
Webb, R. N., Tulsa	235
Weber, Howard No. 5, Bartlesville	1,524
Weber, Obins & Beattie, Bartlesville	576
Webster, G. W., Tulsa	3,795
Weible, H. C. et al, Coffeyville, Kans.	225
Welsh, A. L., Oklahoma City	9,750
Welch, F. P., Rock Island, Ill.	212
Welsh, J. D., Kansas City, Mo.	479
Welch Gas & Oil Co., Stillwater	565
Welder, Myrtle, Estate, Cleveland	126
Wells, N. D., Tulsa	1,951
Wellsville Oil Co., Wellsville, N. Y.	2,059
Wentz Oil Corp., Ponca City	1,149,150
West, J. H., Tulsa	2,191
Westerly Oil Co., Bartlesville	20,363
Western American Oil Co., Bartlesville	1,586
Western Natural Gas Co., Tulsa	928
Western Natural Gas Co., Tulsa	2,249
Western Oil Corp., Tulsa	10,301
Western States Oil & Land Co., Casper, Wyo.	1,136
Weatheimer & Daube, Ardmore	165,180
Westland Oil Corp., Tulsa	6,495
Whaleback Production Co., Oklahoma City	192
White Eagle Oil & Refining Co., Wichita, Kans.	23,545
Whitehill, B. F., Tulsa	1,513
Whitehill, Howard J., Tulsa	110
Whitehill, Donovan, Hayden & Whitehill, Tulsa	740
Whitehill, Donovan & Whitehill, Tulsa	830
Whitehill & Glass, Tulsa	967
Whitehill & Smith, Tulsa	1,395
Whittier, M. H., Tulsa	773
Wickett, K. L., Tulsa	554
Wigton, B. L., Okmulgee	975
Wigton & Long Co., Okmulgee	62,147
Wilcox, H. E., Independence Kans.	50
Wilcox, H. F. Oil & Gas Co., Tulsa	191,379
Wilcox, H. G., and E. M. Oswalt, Tulsa	122
Wilcox, Oswalt & Wilcox, Indianapolis, Ind.	310
Wilhite, J. R., Kansas City, Mo.	80
Wilhoit, Ethel J., Executrix, and R. M. Jones, Trustee, Kansas City, Mo.	2,638
Wilhoit, J. C. No. 2 Account, and Mrs. J. C. Wilhoit, Kansas City, Mo.	1,458
Wilkinson, Sam F., Nowata	357
Wilson, Hiram C., Tulsa	14,605
Windsor Oil & Gas Co., Okmulgee	10,280
Wineland Oil Co., Boynton	886
Winemiller, J. H., Tulsa	182
Winkler, L. W., Duncan	900
Winona Oil Co. of Delaware, Tulsa	54,283
Winters, M., Independence, Kans.	598
Winters Oil Co., Bradford, Pa.	906
Wise & Jackson, Sapulpa	10,049
Wiser Oil Co., Bartlesville	51,183
Withington, Margaret M., Marietta, Ohio	291
Withington Oil Co., Dewey	1,144
Wittmer Property Trustees, Pittsburgh, Pa.	138,961
Wren, Joseph M., Trustee, Tulsa	123
Wright, J. H., Sapulpa	2,477
Wright, W. T., Tulsa	143
Wrightsman Petroleum Co., Tulsa	2,939
Wolfe, E. E., Tulsa	325
Wolfe, F., Tulsa	176
Wolfe, Frank, Trustee, Tulsa	544
Wolfe Oil Corp., Bristow	10,422
Wolverine Petroleum Corp., St. Louis, Mo.	362,994
Wood, T. J., Tulsa	14,142
Wood Oil Co., Tulsa	24,632
Woodard, Geo. E., Nowata	1,228
Woodward-Woodward, Nowata	821
Woodard & Woodard Tools, Nowata	42
Woodard-Burkett & Woodard, Nowata	1,168
Wylie, W. J., Bristow	1,975
Y	
Young, Geo. L., Dewey	594
Z	
Zahn & Crawford, Tulsa	2,705
Zelma Oil Co., Tulsa	592
Zola Oil Co., Tulsa	18,607
SUPPLEMENTAL	
Atchison Oil & Gas Co., Atchison, Kans.	1,948
Barr Oil & Gas Co., Independence, Kans.	325
Bauder & Franklin, Tulsa	24
Berry, J. K., Tulsa	30
Berry, R. G., Tulsa	548
Berry, R. H., Tulsa	252
Betty G Petroleum Co., Cement	340
Blum Oil Co., Nowata	226
Bonnell, John H., Los Angeles, Calif.	1,326
Brandes Oil Co., Nowata	39
Bridgman Oil Co., Nowata	230
Cala Belle Oil Co., Cement	951
Canada Oil Co., Nowata	373
Claymo Oil & Gas Co., Clayton, Mo.	490
Dekoma Development Co., Tulsa	179
Dolman, L. S., Walter H. Gant and S. W. Tyer, Ardmore	7,721
Evans, O. M., Bristow	2,675
Garrett, Robt. E., Tulsa	345
Gatewood, Guy, Bartlesville	287
Gatewood, Pearl A., Bartlesville	86
Great Southwestern Petroleum Co., Oklahoma City	301
Hall, E. S., Receiver for Eartex Petroleum Co., Duncan	275
Hall & Lucas, Duncan	975
Hayner Petroleum Co., Tulsa	902
Henry, J. W., Tulsa	4,207
Hilt-Beau & Dornon, Tulsa	4,775
Hivick, L. C. and J. P., Ardmore	438
Houser, M. A., Trustee, Tulsa	545
Hughes, M. S., Bristow	202
Hutt, Annie M., Fort Worth, Tex.	154
Kingsbury, C. W., and Geo. Kinney, Sand Springs	119
Kingsbury, C. W., Geo. Kinney, C. F. Tingley and E. M. Monsell, Sand Springs	2,092
Kingsbury, C. W., Geo. Kinney, C. B. Stuart and C. F. Tingley, Sand Springs	285
Lea Drilling Co., Tulsa	533
Leaw, M. W., Tulsa	255
Marshall Oil Co, Nowata	213
Meridian Oil Co., Inc., Jennings, La.	135
Midland Oil & Drilling Co., Oil City, Pa.	206
Miller, Geo. L., Marland	15,450
National Petroleum Co., The, Lorain, Ohio	150
Northrup Oil & Gas Co., Tulsa	323
Nyansa Refining Co., Oklahoma City	1,079
Page, Chas., C. W. Kingsbury and Geo. Kinney, Sand Springs	3,446
Page, Chas., C. W. Kingsbury, Geo. Kinney and C. F. Tingley, Sand Springs	68
Pennsylvania Oil & Lumber Corp., Warren, Pa.	1,714
Pyramid Oil Co., The, Winchester, Ky.	11,916
Rex Oil & Gas Co., Winchester, Ky.	11,916
Rogers, The A. H. Estate, Joplin, Mo.	1,106
San Angelo Oil & Gas Co., Chelsea	330
Security National Bank, Tulsa	275
Simons, Marcia R., Okmulgee	275
Slyman, Deeb, Bristow	863
Southwestern Oil Fields Co., Tulsa	31,045
Smith & Daugherty, Nowata	223
Straight, Preston et al, Bartlesville	1,363
Titus, C. W., Tulsa	422
U. S. Cities Oil Corp., Tulsa	330
Warwick, L. H., Trustee, Nowata	23,891
Washington Oil Prod. Co., New York, N. Y.	901
Welsh, M. P. and John Welsh and C. T. Daugherty, Nowata	193
Wettack, Maud T., Nowata	251
Wilkinson, Eugene, Nowata	365
Williams, S. A., Cleveland	1,251
Wilson, John W., Loco	350
Zobar Oil Co., Tulsa	469
	2,517
Total	42,738,978

CENTRAL WEST

(Continued from Page 34)

tion 34, Harrison Township; John T. Schunck is starting No. 4 C. C. Springer farm, same section; Schlagel & Apfel are starting No. 1 Pio farm, Section 27, same township. The Aetna Drilling Co.'s No. 3 on the Thomas Lamb farm, Section 34, same township, has been deepened 12 feet and doing 20 bbls. a day. South and a little west of Payne, in Benton Township, same county, the Richland Oil & Gas Co. is starting a test on the Samuel Stabe 37 acres, Section 3, and the Ashland Oil & Gas Co. working at No. 2 Jacob Stabler farm, same section. The city dump grounds, owned by the town of Payne, and approximately 1 mile west of the town, has been leased and will be developed by C. E. Ledford and the initial well will start in a very short time. The U. S. A. Oil Co.'s No. 3 well, 600 feet from the north line and 200 feet from the east line of the Bailey heirs farm, is credited with 22 bbls. from a total depth of 1,463 feet.

In Marion Township, Hardin County, Schmidt and others' test 1,000 feet from the north line and 2,000 feet from the west line of the James Crossley farm, in the northeast quarter of Section 29, developed into a duster. The top of Trenton was found at 1,392 feet and drilled 24 feet in.

In Cynthian Township, Shelby County, the American Natural Gas Co.'s test on the northeast corner of the J. Zimbarger farm, in the northwest quarter of Section 22, is a fair gas well. The Mansfield Oil & Gas Co. is drilling No. 5 on the Charles Broerman farm, and the Eilerman Oil Co. is drilling No. 1 William Kloecker farm, same township.

In York Township, Van Wert County, Stelzer & McClure's second test 250 feet from the north line and 550 feet from the west line of the Keyser-Forewatter farm, Section 14, pumped 35 bbls. from a depth of 1,235 feet, and Hugh Doyle's test 600 feet from the north line and 200 feet from the east line of the W. H. Lloyd farm, in the northwest quarter of Section 21, pumped 4 bbls.

In Center Township, Mercer County, near Mendon, Mack P. Colt and others' second well 365 feet from the north line and 975 feet from the east line of the William Miller farm, Section 4, pumped 15 bbls. In Hopewell Township, same county, the Home Banking Co.'s No. 5 well, 650 feet from the south line and 450 feet from the east line of the George F. Helworth farm, Section 21, pumped 10 bbls. In Gibson Township, the Central West Oil & Gas Co.'s No. 7 well, 800 feet from the south line and 200 feet from the east line of the P. J. Schmitz farm, Section 36, pumped 8 bbls. Trenton was topped at 1,208 feet and drilled into the oil pay at 48 feet in. E. G. Henderson and others' No. 5 well, 2,000 feet from the south line and 200 feet from the east line of the Joseph

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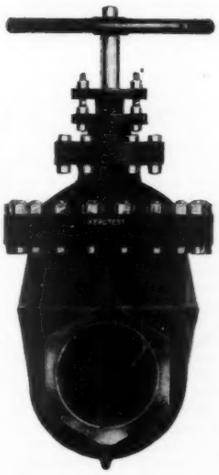

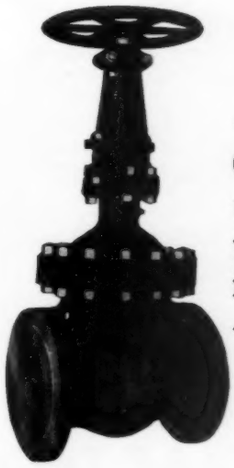

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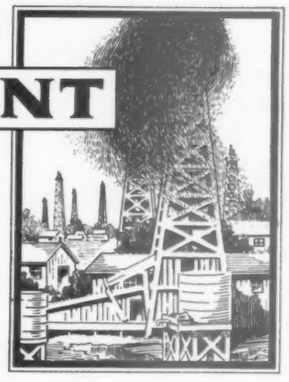

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Schmitz, same section, pumped 5 bbls. Sand struck at 1,209 feet and oil at 50 feet in.

Between Elmore and Woodville, in Washington Township, Sandusky County, Netcher and others' test on the southwest corner of the R. Netcher farm, in the northeast quarter of Section 32, pumped 4 bbls. at 1,294 feet. In Jackson Township, same county, Frank Haubert's No. 3 well, 650 feet from the south line and 200 feet from the west line of the Martha A. Talbert farm, in the southeast quarter of Section 17, pumped 15 bbls. Top of Trenton found at 1,264 feet and drilled 50 feet in.

Near Wapakonetta, in Douchouquet Township, Auglaize County, the Boston-Southwestern Oil & Gas Co.'s No. 3 well 160 feet from the north line and 1,300 feet from the east line of the Fred Priesar farm, Section 20, pumped 39 bbls., and the same company's No. 2 well, 200 feet from the south line and 550 feet from the west line of the C. & F. Frech farm, Section 17, was a duster. In Salem Township, same county, Duke & Galloway's test, 1,300 feet from the south line and 300 feet from the west line of the George Hettinger farm, in the northwest quarter, Section 35, pumped 12 bbls.

In Moulton Township, Auglaize County, Fowler Brothers Petroleum Co.'s test in the southwest corner of the Milton Wolfe farm, in the northeast quarter Section 34, pumped 30 bbls., and W. B. Jack's test, 1,400 feet from the south line and 250 feet from the east line of the Fred Underwood farm, in the northeast quarter, Section 33, pumped 20 bbls.

In Spencer Township, Allen County, W. L. Parmenter's No. 9 well, 650 feet from the south line and 125 feet from the east line of the Shoup-Severns farm, Section 24, pumped 30 bbls. In Marion Township, same county, Joseph B. Mayer's No. 12 well, 250 feet from the south line and 1,550 feet from the east line of the Dave Brenneman farm, Section 12, pumped 12 bbls.

Hancock County

In Eagle Township, Hancock County, Dave King, Jr., and others' No. 16 well, 600 feet from the south line and 800 feet from the west line of the Irwin Powell farm, in the southeast quarter, Section 6, pumped 30 bbls. Star & Clark's No. 3 well, 1,000 feet from the south line and 200 feet from the east line of the Alice Stauffer farm, Section 5, pumped 20 bbls., and J. M. Steen and others' No. 28 well, 500 feet from the north line and 600 feet from the west line of the E. M. Crozier farm, Section 7, pumped 18 bbls.

In Liberty Township, same county, the Ohio Oil Co.'s No. 22 well, 700 feet from the south line and 275 feet from the east line of the J. Cooper, Jr., farm, Section 3, pumped but 2 bbls.

In Orange Township, same county, the Ohio Oil Co.'s No. 23 well, 200 feet from the north line and 1,320 feet from the east line of the Elas Stratton farm, Section 5, pumped 8 bbls.

Wood County

The bringing in of a 20-bbl. flush well within the town limits of Dunbridge by Charles Tanner, 450 feet from the south and west lines of his own property, in Section 21, Middleton Township, Wood County, adds some undeveloped territory to the old producing area. The Trenton was topped at 1,209 feet and the oil found at 30 feet in. The new well should bring about the drilling of other wells at once in that vicinity, along the T. & O. C. Railroad, between Toledo and Bowling Green.

In Perrysburg Township, John E. Welton and others' No. 4, in the northwest corner of the George Limmer farm, in the southwest quarter, Section 28, is credited with 5 bbls. as a starter. Sand was found at 1,237 feet and oil at 47 feet in.

In Plain Township, same county, the Queen Oil Co.'s test on the southeast corner of the Fred J. Hendricks farm, in the southwest quarter, Section 33, pumped 5 bbls. from a depth of 1,379 feet.

In Henry Township, the Ohio Oil Co.'s No. 45, on the northeast corner of the B. A. Lawrence farm, Section 24, pumped 4 bbls. at 1,376 feet.

In Portage Township, Mattie S. Rouse struck salt water in No. 23 well, 700 feet from the south line and 400 feet from the west line of her farm, in the northwest quarter, Section 19, at 1,473 feet. This was formerly known as the Jane Stone farm.

Illinois Field

Two completions were reported during the past several days from the Illinois fields, which are very quiet at this time, although there is hope of a revival of work now shortly.

In Dennison Township, Lawrence County, the Ohio Oil Co.'s No. 26 well, 640 feet from the north line and 300 feet from the west line of the Alf Vandermark farm, in the southeast quarter, Section 25, pumped 25 bbls. from the McCloskey sand at 1,756 feet. In the early days of the development in this area, some wonderfully productive wells were brought in and the field has several known producing sands to get production from, making it the most valuable territory east of the Mississippi River. In Bridgeport Township, the same company pulled out and abandoned old No. 1 on the J. P. Klinger farm, Section 1.

In the shallow Casey-Westfield Field, in Parker Township, Clark County, Bullock and others' test on the northwest corner of the N. P. Daughertee farm, in the northwest quarter, Section 10, proved a duster in the second shallow sand at 479 feet.

Indiana Field

The only completion for the week reported from the Indiana fields was in Hamilton Township, Sullivan County, drilled by Fred Burns and others, 350 feet from the north line and 1,120 feet from the west line of the Arthur Hunt farm, in the southeast quarter of the southeast quarter, Section 31. It developed approximately 20,000 feet of gas, but no oil.

KENTUCKY-TENNESSEE

(Continued from Page 34)

of new prospective territory. Tankage is now being hauled in from Bowling Green and the Paragon is making preparations to lay in a pipe line from Peytonsburgh.

At Bear Creek, Lang and others shot their No. 1 F. F. Smith with 20 quarts in the second Sunnybrook sand where a 25-bbl. well was obtained. Arrangements are now being made to drill an offset to this well on an adjoining leasehold. Freeman & McCormick's No. 1 T. L. Bow is a small pumper in the Sunnybrook sand after it was shot with 30 quarts of nitro. No. 2 is spudding. E. M. Treat & Co.'s No. 1 Garner is drilling on top of the Sunnybrook.

Sulphur Creek

W. S. Raydure's No. 4 Mrs. Coop. offsetting the Kanawha's No. 3, is drilling at 400 feet; Carter & Combest are deepening No. 3 Huddleston-Payne from 125 feet below the Pencil Cave to 350 feet below. Hook and associates are nearing completion on a fishing job which has held them back in finishing No. 1 Wess Nun. If this test proves productive it will extend production at Sulphur Creek to the north.

McClintock and others' No. 3 Millard Kerr is showing for 200 bbls. a day at 160 feet below the Cave. This is an important well as most of the wells at Kettle Creek are producing from the shallow sands and the finding of the deep pay will result in a large number of old wells being drilled deeper. W. S. Raydure has let contract for the drilling deeper of his No. 2 Cleve Blythe, which will be carried to 1,450 feet, approximately 850 feet below the Pencil Cave, unless oil is found in paying quantities at a lesser depth. This test will be watched with great interest by Cumberland operators.

At Fannis Creek, the Vedder Oil Co.'s No. 2 M. C. Scott is drilling at 500 feet. This is an offset to No. 1, which has been producing from the First Sunnybrook since August, 1924. This company's No. 2 Tompkins recently came in making 10 bbls. per hour from a stray sand at 406 feet, just above the second Sunnybrook.

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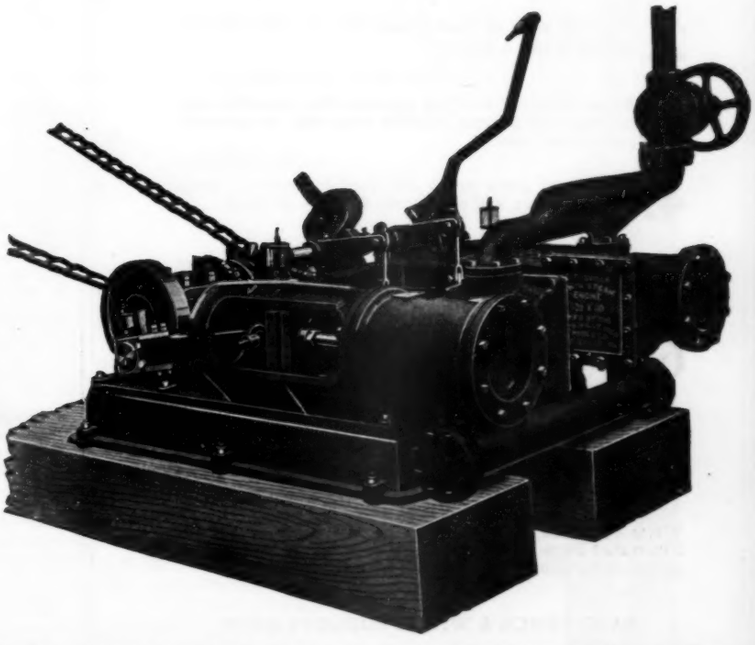

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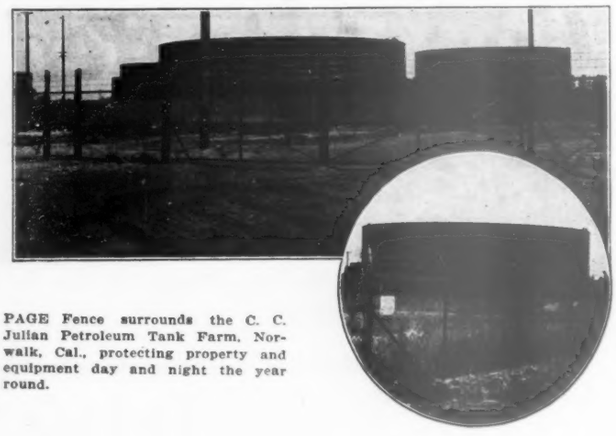

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District Offices

San Francisco Chicago Pittsburgh New York

During the past two weeks, ten 250-bbl. tanks have been run from this lease.

At Judio Creek, the Judio Co., Inc., is drilling No. 1 on Judio Dome at 500 feet below the cave. It is expected the deep sand will be encountered at about 1,350 feet.

A late report states that M. L. Gartlan's No. 3 Maude Blythe is pumping 250 bbls. in 24 hours on the beam. Tools will be moved over No. 1, which will be drilled to the same depth below the cave as No. 3. This lease is in the Kettle Creek Pool.

Warren and Allen Counties

In Warren and Allen Counties a very dull week prevailed. Warren County had two producers while Allen County reports show 2 dry holes and 2 oil wells.

In the Stone Quarry section of Warren County, the McCombs Producing & Refining Co.'s No. 4 H. Rigglewood, adjoining the Crowe, tested 2 bbls. at 1,160 feet. Shale was from 985 to 1,065 feet and the sand from 1,147 to 1,158 feet, which was shot with 80 quarts. In the northern part of the county, Hinson and others' No. 1 H. H. Hester, near Smith's Grove, made 4 bbls. on jack at 600 feet. This completion is important as it is in advance of production.

The Keyes Oil Corp. finished No. 5 R. L. Beam in the Gainesville area of Allen County for 5 bbls. at 500 feet. A very light showing of oil was had and the well was thought to be dry, but after the sand was shot with 80 quarts, the hole filled up with oil and was tested.

On the Crowe farm, southwest of Scottsville, the White Plains Oil & Gas Co.'s No. 23 Crowe pumped 12 bbls. at 260 feet. In the Wheat area, Bastrus and others' No. 1 on the R. Mitchell, No. 2 farm, was dry and abandoned at 385 feet; unknown parties' No. 1 Oscar Foster was dry at 220 feet.

Pipe Line Runs

Pipe line reports for the month of April in the Western Kentucky Field show an increase of 7,072.37 bbls., with a total run of 123,457.24 bbls. when compared with March figures, which totaled 116,384.87 bbls. The largest increase is credited to the Cumberland and Monroe County fields where 15,909.87 bbls. were run compared with 6,973.38 bbls. in March. Other counties registering a slight increase are Hancock, Ohio, Daviess, Barren and Hopkins.

The Cumberland Pipe Line Corp.'s runs from the eastern division for the month of April showed an increase of 5,276.04 bbls., compared with March figures, with a total of 284,573.46 bbls.

Eastern Division

Eight completions were reported in the eastern division of Kentucky during the past week, 5 of which are producers with a flush of 210 bbls.; 2 were gassers and 1 was a duster.

The Union Gas & Oil Co. furnished four of the five producing wells that were reported, all being in the North Weir Field of Lawrence and Johnson Counties. On the C. K. Dobyne No. 1 farm, No. 10 made 65 bbls. flush from the Weir sand; No. 3 C. E. Frailey, 50 bbls.; No. 4 Caney Sparks, 45 bbls.; No. 32 P. P. Holbrook, 50 bbls. The Union is now moving onto No. 12 location on the C. K. Dobyne and No. 4 C. E. Frailey; No. 8 W. D. Lester is being drilled to the Berea sand; No. 2 C. K. Dobyne No. 2 farm, spudding; Nos. 11 M. E. Sparks, 9 William Lester, 9 L. P. Ferguson and 11 C. K. Dobyne, No. 2 farm, are drilling in lime. Nos. 3 R. N. Sparks, 36 J. J. Gambill, 10 L. H. Skaggs and 3 C. E. Frailey are being cleaned out.

Other Completions

A wildcat drilled by Pyle and Abbott on the Mercer farm, 1 mile north of Monticello, in Wayne County, was dry in the Beaver sand at 900 feet.

Brenner & Adams' No. 16 James Arthur, in Estill County, is a 1-bbl. stripper in the shallow sand.

In Martin County, Leonard & Ralph's Nos. 2 and 3 on the Mayo properties are gassers in the regular gas sand in the Inez district.

EASTERN FIELDS

(Continued from Page 36)

Summers farm. It is a light gasser. In the same district, the Coe Brothers' Oil Co. has the rig completed for another test on the L. W. Tanzey farm. In Murphy district, the Hope Natural Gas Co. has the rig completed for a test on the Ira Summerville farm. The same company has the rig completed for a test on the J. C. Hudkins farm.

On Nutters Fork, West Union district, Doddridge County, the Carter Oil Co.'s old No. 2 on the I. M. Smith farm had declined to 5 bbls. a day and under the stimulus of a 20-quart shot its production was increased to 40 bbls. the ensuing 24 hours. In Lee district, Mingo County, the Pure Oil Co. has now drilled its test on the United Fuel Thacker Coal Co.'s property through all sands and dry.

In Big Sandy district, Kanawha County, the United Fuel Gas Co. has a gasser in the Big Injun sand good for 500,000 feet on the Reamer-Brown farm. In Elk district, the company has a 1,000,000-foot gasser in the same formation at a test on the Patterson farm. In the same district, the Oakland Development Co.'s test on the M. C. Higginbotham farm is a light gasser in the Big Injun sand. In the same district, the South Penn Oil Co. is due in the Big Injun sand at a test on the Virginia Dodd farm. In Malden district, the Virginia Gasoline & Oil Co. is due in the same formation at a test on the James Beasley farm. On Grannys Creek, Henry district, Clay County, the same company has started to drill a second test on the J. B. Casto's 260 acres.

In Clay district, Wirt County, W. C. Patterson completed No. 12 on the C. E. Vandeventer farm good for 2 bbls. a day in the first Cow Run sand. In Troy district, Gilmer County, the Carter Oil Co.'s test on the I. M. Wilcox farm is a gasser in the Big Injun sand good for 750,000 feet. In Smithfield district, Roane County, the United Fuel Gas Co.'s test on the W. L. Harshbarger farm is a gasser in the Big Injun sand. In Reedy district, the Heck Oil Co.'s No. 4 on the C. P. Davis farm is good for 12 to 15 bbls. a day.

In Carroll district, Lincoln County, the Ray Gas Co. is through the sand on the Walter Swann farm and waiting for a shot. In the McComas district, Cabell County, the Star Producing Co.'s test is a gasser in the Berea grit. In Elk district, Harrison County, the Grasselli Chemical Co. has a fifth sand gasser on the Mary D. Lawson farm. The Decem Development Co.'s No. 3 on the Phillip Markey farm is good for 8 bbls. a day. It is in Union district, Marshall County, and is producing from the Big Injun sand.

In Troy district, Gilmer County, the Carter Oil Co.'s test on the E. E. Talbott farm is a gasser in the Big Injun sand. In Center district, the Hope Natural Gas Co. has a gasser in the Big Injun sand on the Louis Bennett farm.

Drilling and Starting Tests

In Troy district, Gilmer County, the Star Oil & Gas Co. started to drill on the A. R. Brake farm and has rig material at a location on the S. B. Weiseman farm. In southwest district, Doddridge County, J. W. Dotson & Co. started to drill on the F. W. Waldo farm. In Central district, the Mud Lick Oil Co.'s rig burned down at No. 3 on the Mary Bee farm. In Freeman's Creek district, Lewis County, Bish & Co. have a rig up on the John West farm.

In Lincoln district, Marion County, the Carnegie Natural Gas Co. started to drill a test on the Charles Koehler farm. In Troy district, Gilmer County, the Star Oil & Gas Co. is drilling a second test on A. R. Brake farm. In DeKalb district, the Pittsburgh & West Virginia Gas Co. is rigging up on the H. H. Haney farm. The same company is building a rig on the F. A. Woofter farm.

Wood County Tests

In Tygart district, Wood County, West & Co. are due in the Berea grit on the Frank Barrett farm. In Lubeck district,

E. L. STEPHENS L. STEPHENS

STEPHENS AND STEPHENS

OIL AND GAS—CONTRACTORS—PRODUCERS

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Jan. 3, 1925

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Marietta, Ohio

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I thought that possibly you would be interested to know the results I have had with your Spiral Equipment.

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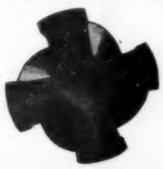

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Leidecker Spiral Bits—a scientific achivement—an epoch-making triumph, have reduced drilling hazards as well as drilling expense. Some conceded that they would drill better in caving formations—and they do; others said they would drill better in wet "hole"—and they do. They have shown in various parts of the oil country that they will do everything that ever was claimed for them PLUS the fact that they reduce fishing jobs due to broken pins or boxes, also saving the jars considerable stress. Leidecker Spiral Equipment means a saving in material, time and labor.

They have been tried in every conceivable way under every possible condition and they have more than made good—made more money for contractors, saved production costs for operating companies and labor for the drilling crews. So that all in the oil country have profited by their use. Eventually these savings will be passed on to the public. Complete particulars regarding these tools mailed upon request.

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107

Who Builds The Best Pipe Line Pumps

PRESCOTT MENOMINEE

The Prescott Co.
Menominee, Mich.

Henry & Depue started to drill on the J. Mullendick farm. In the same district, Staats Brothers are drilling on the R. R. Bailey farm. Carmichael & Rexroad are drilling a second test on the S. Spencer farm. In Union district, Pleasants County, L. C. White & Co. are fishing at 900 feet on the E. L. Newland farm. In Burning Springs district, Wirt County, Wilson & Co. have shut down at 1,170 feet on the Henry Sheets farms.

New Work in Doddridge County

In McClelland district, Doddridge County, Trainer & Travis started to drill on the M. Scott farm. In the same district, J. H. Pence is moving tools to a second location on the Mary & Zed Underwood farm. In Central district, J. W. Dotson & Co. are rigging up on the F. W. Waldo farm. The Brooks Oil Co. started to drill on the Edward Brooks farm, Union district, Tyler County. In McElroy district, the Carter Oil Co. is drilling down an old well on the Stoneking heirs' farm. In Clay district, Monongalia County, the Moore-Tex Oil Co. has made a location on the Leonard Shanks farm. In Battelle district, the Manufacturers' Light & Heat Co. has made a location on the Hannah Price farm. In Coss district, the West Virginia Traction & Electric Co. has a rig completed on the W. M. Ramsey farm.

Southwest Pennsylvania

For the first time in a great many months the Southwest Pennsylvania fields has presented a large producer. It is Tague, Lutton & Co.'s No. 5 on the B. G. Lutton farm, in the fourth sand development in North Strabane Township, Washington County. The first 24 hours after the well was drilled into the fourth sand pay it produced 100 bbls. All of the previous late completions in this development have come in light pumpers or dusters. The location of the last well completed is inside of defined limits.

In Morris Township, Greene County, the Carnegie Natural Gas Co. has drilled a test on the Caleb & Lyda Stewart farm into the Gordon sand and the hole filled up with fluid 2,300 feet. It will make a fair producer. In Springhill Township, Stockdale & Co. has a gasser in the Big Injun sand at a second test on the Morford heirs' farm. In Aleppo Township, the Dumar Oil & Gas Co.'s old well on the Anna E. Carpenter farm drilled down and good for 2 bbls. a day in the Bayard sand. In Perry Township, the Black Run Oil & Gas Co.'s test on the McClelland Wright farm is dry in the Gordon sand.

In South Strabane Township, Washington County, P. G. Kennedy and others have completed a test on the R. D. Wylie farm to a depth of 2,700 feet and dry in all sands. In Perry Township, Greene County, the Martin Oil & Gas Co., after swabbing its second test on the Jarrett Fox farm, the well started to flow and produced 46 bbls. the ensuing two and one-half hours.

Drilling Again at Ligonier

Near Ligonier, Westmoreland County, on Chestnut Ridge, Pennsylvania, the Peoples Natural Gas Co. has succeeded in drilling out the bailer lost in its deep test on the Booth-Flinn property. It is now down 7,702 feet, which is deeper than any other well ever drilled.

In Gaskill Township, Jefferson County, Pennsylvania, near Big Run, Cliff Deever and others are down 6,700 feet at a deep sand drilling in the Marcellus shale. This is the deepest test ever drilled in Jefferson County.

Near Evans City, Butler County, Simpson & Co. are down 4,600 feet at a deep test. Nothing has been found up to the present time. Geologists were skeptical as to getting oil or gas at this location.

The Hope Natural Gas Co.'s deep test on the Joseph Gordon farm, near Terra Alta, Portland district, Preston County, has again started to drill, having been shut down for some time waiting for the cement to set. They filled up the hole from 4,168 to 4,095 feet with cement. Since they started to drill they have reached a total depth of 4,193 feet. This is the well started last year with a view to drilling it deeper than any other well in this or any other country. Almost from the start many delays occurred on account of caves or crooked hole. In Union district, Harrison County, the Reserve Gas Co. is running the 10-inch casing at its deep test on the Chapman Smith farm. It is down 2,963 feet. These are the only two very deep tests now drilling in West Virginia.

Deep Test in New York

Five miles from Randolph, Cattaraugus County, New York, the Arkansas Fuel Oil Co. and the Echo Oil Co. are drilling a deep test on the Hotchkiss farm. They have reached a depth of 4,684 feet. Gas pressure was developed in the Red Medina sand, estimated at better than 300,000 feet a day. This is the deepest well ever drilled in that section and they are undecided as to drilling deeper or stop at the present depth and utilize the gas for light and heat in that locality.

ELECTRIC DRILLING AT DUKE CENTER, PA.

BOLIVAR, N. Y., May 16.—An interesting experiment in operation in the local oil fields was started on the C. A. Duke property in Duke Center, when electric connections were made and the drill began spudding in an oil well by electricity. It is expected to drive the hole through to the Kane sand, some 1,700 feet.

The power is furnished by a 25-horse power motor, equipped by the Burke Electric Co. of Erie, the juice being taken from the lines of the Eldred Electric Co., which were but recently put into Duke Center.

Transformers reduce the 6,600 volt current to the required 440, necessary to do the work, and the first few hours showed remarkable progress without a hitch.

The motor is furnished with nine different speeds and being reversible, affords any speed desired, up or down. On the fourth speed, the drill spudded in 43 strokes to the minute and never wavered. L. D. Bunker is the contracting driller.

The second day, with the hole some 50 or 60 feet deep, a little trouble was experienced by the blowing of fuses, several times, but this was the ftult of trying to start the motor from a dead stop to heavy pulling too quickly. Under gas or steam, the engine is running continuously and the driller merely throws in the clutch, but it is different with electricity as the motor is stopped when power is not needed, and a few seconds' time is needed to let it get speed to required force. There is no hindrance to work, but one little kink that had to be learned.

Drillers have been considering the use of electricity for some time, on account of the growing shortage of gas, and the expense of hauling coal. The difference in cost of gas and coal is a considerable amount, in fact, several hundred dollars on a well, but as no work of this kind has been done with electricity around here, the probable cost was to be reckoned with.

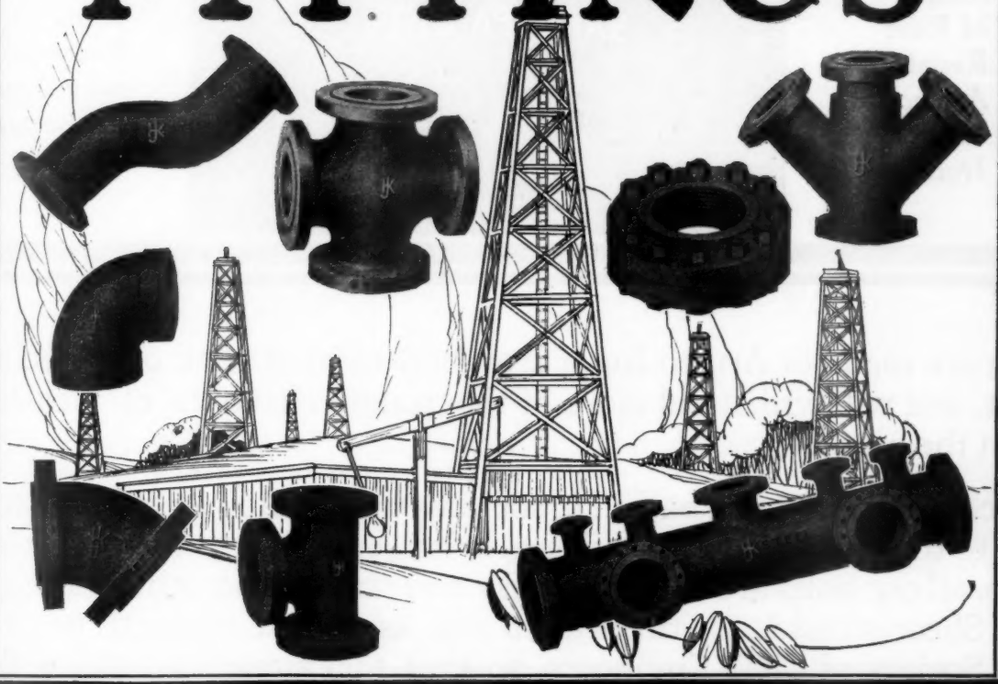
On this well, a careful "log" is being kept, with the expense, etc., and by the time it is completed, a fair estimate of the cost for the new power will have been secured, and it is believed it will prove cheaper than coal, and, while probably more than gas, will have many advantages in use, and a constant power to get into territory leases that test the engineering power of a crew to get boilers and engines into position to use.

ACME MOVES TULSA QUARTERS

The Acme Fishing Tool Co. recently announced the removal of its Tulsa offices and stock of drilling and fishing tools from No. 12 North Boston Avenue to the quarters of the Brown Welding & Machine Co., 425 East Second Street, Tulsa. The Acme company had been 13 years in its North Boston Avenue quarters.

The company is establishing agencies in Breckenridge and Woodson, Tex. It will continue to run its Okmulgee, Okla., store.

Electric Steel FITTINGS



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In order to maintain the usual high standards of all K. & J. equipment, these fittings are manufactured from Electric Furnace Steel in our own foundry.

The line includes fittings suitable for 250, 400, 600 and 900 pounds steam or hot oil working pressures and for temperatures up to 750 to 900 Fahrenheit.

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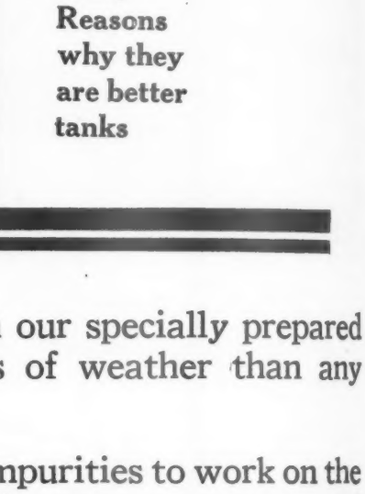
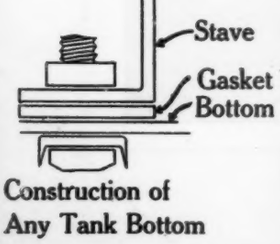
All tanks, except Gantz tanks, have flat bottoms which allow impurities to work on the staves. Due to the fact that our bottoms are flanged upward, the staves are protected and then, too, all our bolts are in shear stress and there is no other tank of which that can be said. Shear stress is 1¾ times as strong as tensile strength according to tests made by the Society of Civil Engineers, so that fact alone will show you why Gantz tanks are so much stronger since correct design is there.

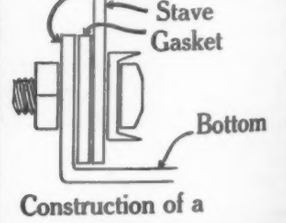


Our machinery is especially adapted for accurate work; for instance, our huge roller punch performs all the work on a single piece at one operation, thus eliminating all chance of error due to moving the piece to be punched for each operation. This means the holes need not be drifted in setting and means that a Gantz tank is reset as easily as when it was first erected.



Construction of Any Tank Bottom

GANTZ TANK CO.
ARMCO
Bolted and Welded Tanks
SAPULPA, OKLA.



Construction of a Gantz Bottom

CANADIAN FIELDS

(Continued from Page 52)

at 1,340 feet. No. 258 has been located on the John Cofell farm, lot 172, Talbot Road survey, Tilbury East township, as a test of the same sand. In Dover township, the Union Natural Gas Co.'s No. 19 deep test is drilling at 1,950 feet.

Oil producers in the Ontario fields have been notified by the supervisor of crude petroleum bounties to have their tanks cleared out by the end of June, as no government bounty will be paid on crude petroleum produced after July 1, 1925.

In the Welland gas field, a conference between the Provincial Natural Gas Co. and representatives of the consumers supplied by its system, has resulted in a tentative agreement for a new rate of $1.05 per 1,000 feet plus the government import tax on manufactured gas, and less 5 cents cash discount. The previous rate was 75 cents per 1,000 feet for natural gas; but owing to the failure to secure new production and the decline in the existing natural gas supply, the company is now importing artificial gas by pipe line from Buffalo. The company has been operating for 36 years, being the pioneer natural gas company in Ontario. When gas was first developed it was supplied at a flat rate of $1 per house per month for heating and lighting. Later, owing to waste, a meter rate of 25 cents per 1,000 feet was established, which has gradually been increased to 75 cents.

ROCKY MOUNTAIN AREA

(Continued from Page 52)

the Union officials relative to pipe line and refinery problems.

E. T. Williams Co. Operations

The E. T. Williams Oil Co. has issued a statement to its stockholders confirming the sale of the Central Pipe Line Co.'s Salt Creek line to the New York Oil Co. This deal was made through the purchase by the New York Oil Co. of 260,769 shares of the pipe line firm at 55 cents per share, totaling $143,422.95.

The Williams company also sold to the Midwest Refining Co. the equipment of the Williams Gasoline Co. for the sum of $60,000.

The Williams is now pumping 28 sand wells in Salt Creek and one shale well. The production for April averaged 758.68 bbls. daily and this firm is one of the few companies in the field that is still held to a contract price of $1.60 per barrel. This is expected to be advanced in the near future to the regular price of $2 now being paid in many parts of the field for crude.

Field Runs for April

Salt Creek	1,769,940
Teapot	58,730
Big Muddy	99,910
Grass Creek	136,890
Elk Basin	28,630
Greybull	1,445
Rock River	95,510
Notches	*140
Rex Lake	*400
Lance Creek	36,620
Poison Spider	2,270
Osage	11,350
Hamilton Dome	17,040
Mule Creek	*15,690
Lander	8,310
Byron	2,240
Pilot Butte	*320
Lost Soldier	129,510
Ferris	2,070
Cat Creek	93,720
Sunburst	98,195
Craig	24,164
Fort Collins	31,560
Boulder	785
Florence	7,390
Rangeley	3,000
Tow Creek	4,007
Artesia	31,255
Rattlesnake	11,180
Hogback	16,010
Miscellaneous	6,400

*Partly shut in or storing oil.

Field Runs for the Week

Salt Creek	56,110
Teapot	1,570
Big Muddy	3,320
Grass Creek	4,500
Elk Basin	940
Greybull	25
Rock River	3,180
Lance Creek	510
Poison Spider	240
Osage	390
Hamilton Dome	800
Mule Creek	1,270
Lander	350
Byron	60
Lost Soldier	5,090
Ferris	80
Cat Creek	3,085
Sunburst	3,800
Craig	760
Fort Collins	1,040
Boulder	25
Florence	240
Tow Creek	130
Rangeley	100
Artesia	1,140
Rattlesnake	425
Hogback	490
Miscellaneous	200
Total	89,870

CALIFORNIA

(Continued from Page 48)

and a small pumper may be secured. The Nevada Signal Oil Co. picked up the pay at 4,435 feet and cemented a string of 8¼-inch at 4,232 feet. It is the intention of the company to add a little more hole after drilling out before making a test.

Torrance

The Chanslor-Canfield-Midway Oil Co. General Petroleum, Standard and Petroleum Securities each finished a producer at Torrance during the past seven days, but their combined new production was practically negligible. The Chanslor-Canfield-Midway's No. 48 Del Amo was the largest of the quartet. It pumped 108 bbls. of 15.8 gravity oil from 3,625 feet, the hole being finished with a 6¼-inch oil string. The company has three other drillers on this lease and two on the Torrance property, which are favorably located and look good for ultimate production. The General Petroleum's No. 8 Poggi was a 60-bbl. pumper, the oil testing 16.2 degrees and showing a cut of 5 per cent. The hole was drilled to 3,800 feet and finished with a 6¼-inch oil string carrying 252 feet of 50-mesh screen. Well No. 10, on Kleinmeyer Lease B, of the Petroleum Securities, pumped 38 bbls. from 3,800 feet. The oil tests 17.3 degrees and shows a cut of 4 per cent. The Standard's No. 3, on Marble Lease No. 2, was a 64-bbl. pumper. The oil, which is coming from 3,820 feet, tests 17.1 degrees and shows a cut of 3 per cent.

The Petroleum Midway's contribution to the completion list at Huntington Beach, was No. 1-A Thornton, which was good for 78 bbls. a day of 20.1 gravity oil. The hole was carried down to 3,510 feet and finished with a 6¼-inch oil string carrying 523 feet of 80-mesh screen but, since the output is cutting approximately 20 per cent water, it is believed that some additional work will be necessary. The Standard picked up a good looking showing in No. 20 Bolsa Chica at 3,809 feet, but no additional cores have been taken and it is, therefore, unknown whether the sand is of sufficient thickness to warrant a test. No. 18, on the northwestern front, is still standing cemented but should be drilled out within the next few days. No. 2 Wardlow of the Associated looks good for an early completion, as a core at 3,700 feet shows a very good sand. The General Petroleum is also scheduled to increase its production as Nos. 1, 2 and 3 on the Dabney property, being cleaned out and deepened, are showing up well. The Sun Oil Co. is building a rig for No. 7, which will be an offset to the General Petroleum's No. 4 Dabney, and an early spud is anticipated.

Rideout Heights

The Petroleum Midway-California Petroleum succeeded in securing a 148-bbl. pumper at Rideout Heights, when No. 1 Hamburg was given a test, and, incidentally finished the first producer secured in this field for a long time. The company was not successful, however, in developing the deep production found by the Whitley Oil & Refining Co., but was obliged to plug back from 4,620 feet to the upper zone at 3,300 feet. The oil, which tests 21.8 degrees and shows a cut of 10 per cent, is coming through the perforations between 2,875 and 3,300 feet. The Petroleum Midway spent considerable money endeavoring to secure commercial production in this area, but this hole was the only one worth testing out. The other three, consisting of No. 1 Pellisier at 4,481 feet, No. 1 Seward at 4,805 feet and No. 1 Witte at 4,682 feet, are standing idle. The Pan American is making a production test of No. 1 Jesurum, drilled to 4,448 feet, and may secure a small producer.

The Standard finished a 248-bbl. pumper at Coyote, when No. 101 Murphy was put on a test at 4,748 feet, but the oil, which tests 26.2 degrees, is cutting about 10 per cent water. It may be possible, however, that the cut will be substantially reduced after the well has been on production for a week or so. Work has been temporarily suspended on No. 21 Home at Whittier, but the company will probably resume plugging operations shortly.

Richfield

The Chanslor-Canfield-Midway Oil Co. finished redrilling and deepening No. 1-B Bradford at Richfield from upper zone to the deep sands discovered by Chicksan Oil Co. several months ago and is getting ready to make a test at 4,825 feet. The Petroleum Midway finished No. 9 Richfield Consolidated at 4,758 feet and secured an intial production of 230 bbls., the oil testing 18.2 degrees and showing a cut of 3 per cent. The well is a live one with a casing pressure of 450 pounds and may increase its output after getting under way. The Chicksan ran into a fishing job at 2,000 feet with No. 3 Bradford a week or so ago and no success has attended the efforts of the company toward recovery since the mishap occurred. No. 4 Bradford is rigging up and drilling should get under way within a week or 10 days. The Standard has three wells on the Kraemer lease which are showing oil, No. 3 at 4,566 feet, No. 18 at 4,635 feet and No. 19 at 3,980 feet, but it is not known when a production test will be made. No. 1 Tuffree of the Union, a Richfield outpost, is held up with mechanical trouble at 4,806 feet. At Fullerton, the Chanslor-Canfield-Midway Oil Co. is making fairly good progress with No. 96 Olinda at 2,655 feet and No. 97 Olinda at 1,844 feet. The Union is also making rapid headway and has No. 1 Olinda at 2,015 feet and No. 2 Olinda at 1,067 feet. The Fullerton Oil Co. has just secured an okeh from the State Mining Bureau on the water shutoff on well No. 19 at 3,200 and is preparing to go ahead.

Seal Beach

The Shell's discovery well at Seal Beach is still making 60 bbls. of oil a day, accompanied by considerable water. The crew has practically finished cleaning out No. 2 Bryant at 4,446 feet and it is expected that drilling from now on will be fairly rapid. No. 3 Bryant is getting close to the completion depth and shows a sandy shale at 4,650 feet. The Associated has just passed the 3,00-foot level in No. 1 Hellman and is ging ahead quite rapidly Recent activities of the Associated in leasing, prospecting and commercial sales bid fair to place this company in the front rank of California operators within the next few years, unless something develops to restrict its growth. The construction of docks at Los Angeles harbor to handle crude oil shipments afforded the company a chance to enter the retail markets in that section of the State. About 25 service stations have been erected and it is believed that the number will be added to from time to time. The company's success in developing deep production at Beverly Hills in the Salt Lake Field recently should prove of real value to the company in a year or two when most of the present fields will be producing much less than they are doing today. While this area is of much value it will probably be held in reserve and work concentrated at Inglewood and Seal Beach.

Just what action the Associated will take toward erecting a refinery in Southern California if Seal Beach comes up to expectations is not known but it would seem to be a logical move if sufficient service stations are placed in the area to warrant it. At present the company is obliged to tanker its crude supply up to its Avon refinery near San Francisco and then bring back the refined products to be sold in and around Los Angeles. There is no real necessity at present but if California should experience another shortage such as existed a few years ago the company's reserve will come in handy.

Newport

The Interstate Oil Co.'s No. 2 Mesa, by far the best well finished in the Newport section, averaged 60 bbls. a day during the week and continues to produce 13.4 gravity oil, which is rather high for this area. The company has plugged back No. 1 Mesa from 3,350 feet to 690 feet and has hopes of duplicating the production secured in No. 2 as soon as the present water trouble has been overcome. The Bruce Oil Co. produced no oil during the past week, due to the fact that the company's small tankage facilities are already filled. The company is going right ahead with No. 2, however, a driller at 410 feet, and should finish a small pumper at approximately this depth. The Empire Drilling Co. is rigging up No. 1 Strowbridge and has rig timbers on ground for No. 1 Fairview. The Newport Petroleum's tunnel, which is 490 feet in length, has just about reached the production stage, but no estimate will be available as to its productivity until the production chamber is finished. F. A. Winchester's No. 1 Palisades is estimated to be down 1,200 feet and, although no information is released by this operator, it has been fairly well established, that nothing of interest has been encountered to date.

Southern California Wildcats

The Manhattan Pacific Oil Co. drilled its Hermosa Beach wildcat but it was found that a water shut-off had not been effected and another cement job will be necessary on the 6¼-inch in this 4,165-foot hole. The Winwell Oil Co. is held up with a fishing job in No. 1 Dome at Hawthorne, which developed at 5,586 feet. The territory south and east of Santa Ana, since being brought into the limelight a few months ago, is attracting a number of operators and will undoubtedly be the scene of considerable wildcatting during the coming summer. J. E. Johnston has just leased a portion of the Irvine Rancho in this area and it is expected that work will be started within a few days. The Calny Oil Co.'s No. 1 Irvine, north and west of this newly acquired lease, reports a slight gas showing at 3,220 feet. The Standard has just passed the 3,000-foot level in No. 1 Irvine and is at present drilling ahead at 3,005 feet in a hard gray shale. Hoyt S. Gail reports a brown shale at 1,220 feet in his No. 1 Irvine.

It does not look as though the Shell is giong to meet with any success in its attempt to develop production at La Mirada, as the company's No. 1 Stubbs in this area has just passed 4,180 feet. No particularly encouraging showings have been noted and the absence of rainbows and gas above this depth generally indicates a dry hole. The Superior is the latest company to enter the area in the vicinity of Rivera and the announcement that this company has secured a lease on the 650-acre Vail Ranch indicates that steps will be taken within a short time toward drilling another test. The Standard's No. 1 Hadley, in this general vicinity, is at 3,525 feet. The Magnolia Petroleum at Maywood failed to secure commercial production at 3,950 feet and, although the ditch has shown some colors, they only afforded a little encouragement. The Union has a rather doubtful wildcat in No. 1 Newlin at Ocean Park Heights and, although numerous cores have been taken, nothing has been picked up from the grass roots down to 4,600 feet. Neither the Union nor Associated has found anything of interest in the Newhall-Saugus area. The former's test is down 2,197 feet, while the latter's wildcat logs a hard sandy shale at 4,665 feet. The Pan American is just getting started at Palms and No. 1 Crest in this area is credited with 1,300 feet of hole.

Northern California Wildcats

The Chanslor-Canfield-Midway Oil Co. did not make any material progress with its Delano wildcat during the week and is still held up with a fishing job which developed at 3,743 feet. The company's attempt to loosen the stuck drill pipe by circulating with oil resulted in a very persistent rumor that live oil had been found. The company denies, however, that anything out of the ordinary was found.

The Standard has not yet started work on Section 12-25-19, in the Lost Hills area, and, while the exact date of spudding is not known, it will probably be in the near future. The Standard has been particularly active in the

McKittrick area during the past few months and the recording of a lease between this company and the Cymric Oil Co. discloses the fact that an additional 80-acres have been aded to its holdings in this area. The Cymric lease, Section 26-29-21, calls for an eighth royalty, an early spud and a completed program of 11 wells. The Standard is coring at 1,550 feet in well No. 1 on Section 25-29-21, and drilling ahead in No. 2 at 1,746 feet.

The St. Helens Petroleum has just issued a suspension order affecting its wildcat on the Kern River Bluffs south of Bakersfield. The test was carried down to 4,985 feet and it is believed that this is the first step toward an early abandonment. The Pan American pulled out of this area after going to 5,020 feet a few months ago. Several tests made of the gas found by the Main Oil Co. at Wasco indicate that it is a marsh gas and the failure to find anything which could be associated with petroleum has resulted in the lack of interest in the area. The Main's well has partially sanded up but it is making about 1,000,000 feet of gas daily. The Snowolene reports a hard sandy shale at 4,640 feet in its Jacalitos Dome test, Section 22-21-15. No particularly favorable showings have been found in this test to date. There were no developments of interest at Raisin City during the week, as the Fresno United's test on Section 23-15-18 is standing recemented at 5,357 feet. The Associated has reached a depth of 800 feet on Section 14-15-18 but is not yet in a position to resume drilling on the Fresno Petroleum's old 3,544-foot hole on Section 26-15-18.

The Shell finished a 665-bbl. flowing well when No. 9 Gosnell, in the Ventura Avenue Field, was put on a test at 4,452 feet. The oil, flowing through a ½-inch bean under a pressure of 380 pounds, tests 27.2 degrees and shows a cut of 4 per cent. The company made fairly good progress on the Edison lease and its six drillers on the Gosnell lease are going ahead nicely.

SOUTHWEST TEXAS FIELDS

(Continued from Page 46)

additional rigs to work drilling their block of leases.

The block of leases was originally got together by the Dixie Oil Co. and the locations made by Dixie geologists. Dixie gave the Good Oil Co. part of the block for making the tests. Dixie still retains a big block of leases and Marland Oil Co. has a good sized block well located. Successful completion of a well will necessitate drilling on the part of these two major interests.

Instead of one wildcat Humble Oil & Refining Co. is starting two wildcat tests on its big block of leases in Bexar County which extends almost to the Somerset shallow field on the southwest and nearly to the Good Oil Co.'s No. 3 Cantu on the northeast in eastern Bexar County. The No. 1 Charlotte N. Cassin is located west of the old Alta Vista Field. No. 1 Minna Coreth is due southeast of the city of San Antonio and is about 6 or 7 miles from the No. 1 Cassin and the Humble holds the leases for most of the territory intervening and much more in either direction.

The expectation is the Humble will be drilling for a year or more on this block and in time will put down many tests since the block is so extensive it could not be adequately tested without quite a number of tests being drilled.

W. E. Rutledge deep test in Somerset on the Kaufman tract is drilling at 2,700 feet and in the Austin chalk which was topped at 2,430 feet. Drillers expect to finish the chalk with but little additional drilling and production in quantity is not looked for then until the Edwards lime is reached which will require 400 to 500 feet additional drilling.

Ballard & Underwood's No. 1 Eastwood, another deep test in the field, is losing returns in a cavity at 2,250 feet.

United Central Purchase

Purchase of the Wheatley Oil Co.'s 170-acre property with 15 producing wells and an average daily production of about 1,200 bbls. to the United Central Oil Corp. for a consideration of $825,000 cash has been confirmed by C. A. Wheatley, president of the Wheatley Oil Co., which maintains offices in this city. The purchase is one of several that has been made by the United Central in the Mirando Field and with several more that are in various stages of completion which will result in the United Central having a total production, if all deals are carried through, of around 3,000 bbls. daily production in that field.

Five purchases in the Mirando Field by the United Central Oil Corp. are understood to have been closed. These with the quarterly production for the last quarter of 1924 for each company are as follows

Wheatley Oil Co.	105,741
Two Republics	10,301
Weslaco and C. E. Wolcott	9,000
O. W. Killam 681 acres	....
Chandler-Gier	14,818
Total	139,860

Companies for which it is understood deals have not been completely closed are

J. W. Quigg	7,724
Alworth Brothers	7,331
Richmond Garcia	22,918
Rio Grande Petroleum	13,192
Calumet (20 acres)	....
Carnahan	16,932
Cornhuskers	13,081
Total	81,178
Grand total	221,038

May Build Pipe Line

With the closing of some of the first deals the United Central has indicated an intention of building a pipe line from the Mirando Field to the Gulf Coast at Corpus Christi, a distance of approximately 150 miles, but whether this will be done immediately is not known. United Central has taken possession of several of the properties and is operating them and has its forces in the field arranging for the beginning of an extensive drilling campaign. Very few of the properties have made more than a start toward development. The Wheatley property of 170 acres has 15 wells on it and has proven acreage that will support a large additional number of wells. In the Richmond Garcia property, which it is understood is to bring around $200,000, there is a relatively small number of wells but a large acreage of about 1,200 acres that is very valuable.

Independent producers in the Mirando Field have been marketing their production largely for fuel oil and it is claimed that the low zero cold test and the high flash and fire tests make it a most valuable lubricating oil and when blended in the proportion of 30 bbls. of Mirando with 5 of West Columbia and some from other fields is susceptible of being marketed with a relatively high profit for the refiner.

In addition to the sale of the various properties in the Mirando Field to the United Central there are several other deals pending in the Mirando district which promises to throw most of the production of the field into the hands of major interests. It is generally understood that the Humble Oil & Refining Co. had about closed a deal to buy the Big Bend Oil Co. (Henne, Winch & Fariss), but the deal was interrupted by the company's bringing in its well on block 13 south of the Jim Hogg Field 1 mile with a production of around 3,000 bbls. flush daily which changed the basis for the trade.

Sinclair interests have been active in the Mirando district and have checked the production in a number of properties in the various pools after agreeing to purchase on certain basis. It is understood that a purchase has practically been agreed upon that will mean the taking over of one of the biggest remaining producing properties of one of the first operators in the Mirando Field.

Big Bend Oil Co.'s production is entirely in the new Jim Hogg County Pool and has been averaging about 7,500 bbls. a week until the last big producer was brought in extending the field 1 mile to the south. Kitselman & St. Albans had a production of 6,500 bbls. weekly, Killiam interests about 2,500 and Witherspoon 500. The remainder of the production in that pool is held by the Magnolia with 900 bbls. weekly, Plateau Oil Co. 3,000 bbls. weekly and Texas Pacific Coal & Oil with 5,000 bbls. weekly.

It is understood here that A. C. Woodman, at one time a vice president of the Sinclair Consolidated Oil Corp., is to become president of the United Central Oil Corp., and the company will make a specialty of lubricating oils.

The Wheatley Oil Co. will remain intact and maintain offices in San Antonio.

Miscellaneous

Earl B. Reynolds is attempting to loosen the drill stem in No. 1 Butler in Karnes County at 2,677 feet with a gas pressure that shot the fluid to the double board. He is arranging to use crude oil for lubricating. Drill stem became stuck when the spider broke.

Houston Oil Co.'s No. 1 Dick Woods in Goliad County, southeast of Berclair, is weighting down the fluid with oxide of iron at a little below 2,000 feet.

DeLange, Eiser & Co. have purchased in fee the Jim Dobie ranch of 54,000 acres in LaSalle and Webb Counties in the edge of the LaSalle uplift marked in Government reports and with the Crowther Monocline of professional paper No. 126 running through the center. DeLange and Eiser have been drilling in southern Atascosa and announce that the Dobie ranch was purchased on account of the oil possibilities.

The Texas Co. has purchased the 12,000-acre Luby ranch north of Benavides in Duval County in an area where the Union Sulphur Co. has developed the existence of a big deposit of sulphur.

W. G. Clark's No. 1 Scott in Bee County at a little below 2,000 feet has some gas showings and is reaming down and will continue ratholing.

C. N. Haskell has organized the Magic Oil Co. and is arranging to drill some Zapata County leases in the territory of the Mirando Field. Offices of the company are in Houston.

Dixie Oil Co.'s test in Bee County on the R. P. Lucas ranch will be drilled by W. G. French on acreage received from Dixie and on location by Dixie geologist.

Sigmund No. 5 at Aransas Pass is drilling at 2,800 feet with a little showing of gas.

The Plateau Oil Co. and Texas Pacific Coal & Oil Co.'s No. 2 Freeman-Miller, which has been putting about 6,000,000 feet of gas into the line of the Southern Natural Gas Co. for more than a month, began showing some sand and when worked over bridged. It has been cleaned out and came back to original production.

Humble Oil & Refining Co.'s No. 3 Kincaid in Uvalde County at 840 feet got a quantity of liquid asphalt common to some wildcat wells in that district and considered a very favorable showing.

United North & South's No. 1 Kelly in the Luling Field, a deep test, is now drilling at 5,500 feet and progressing only a few inches a day due to very hard formation. The company's Tiller deep test is below 5,000 feet and also making slow progress. Production horizon in the Edwards lime is at 2,150 feet. North & South is getting ready to start another test near No. 1 Callihan, a few miles east of the field, which at a little below 2,000 feet is capable of making about 5 bbls. daily.

N. LOUISIANA-ARKANSAS

(Continued from Page 44)

Section 26-15-19, and arranging to retest at 2,244 feet; C. W. Robinson drilling at 1,000 feet No. 1 Polk, in Section 16-15-19.

Bossier Parish

Atlantic Oil Producing Co. is drilling at 1,982 feet in No. 3 Bodcau, Section 23-23-12 in the north end of the parish. Wilder and Cushman are rigging up to drill No. 1 Leviston, Section 13-16-12 in the north end of Elm Grove district.

Bellevue Field

Autrey and others have derrick up for No. 12 Elston, Section 10-19-11.

Caldwell Parish

Beckner and others have derrick up for No. 1 Vinson, Section 33-12-4e, 10 miles south of Columbia.

Caddo Parish

In the Pine Island district, Dixie Oil Co. is down 280 feet in No. 5 State, Section 24-21-15; Odell & Lawton are bailing to test at 1,700 feet No. 3 Weiss, Section 15-21-15, and Ohio Oil Co. is drilling in chalk rock at 1,655 feet, No. 17 E. K. Simth, Section 12-21-15.

In the Hosston district, Dixie Oil Co. is drilling at 2,610 feet No. 1 Jolley, Section 27-22-15, the deepest test ever made in this territory.

Flournoy Trustee is drilling No. 1 Simpson, Section 8-16-15, at 2,000 feet, half way between Bethany and Reisor.

Fortuna Oil Co. is drilling at 2,500 feet in No. 1 Mitchell, Section 17-18-16, 4 miles west of Cross Lake.

Haynes Brothers are drilling at 2,635 feet, No. 1 Louisiana Live Stock & Planting Co., Section 8-19-16, 6 miles southwest of Mooringsport.

D. C. Richarson tested salt water with a small show of oil at 1,030 feet in No. 1 McGuffin, Section 3-18-15, 3 miles northwest of Shreveport.

Shreveport Producing & Refining Co. drilling at 900 feet in No. 1 Bryson, Section 17-17-16, 3 miles northwest of Greenwood.

In the old Caddo Field, Standard Oil Co. is drilling in chalk rock at 1,760 feet in No. 1 Stiles, Section 27-21-16, and The Texas Co. is bailing casing at 3,505 feet in its deep test on the Federal Jeems Bayou Lease, Section 15-20-16, and drilling at 1,415 feet in No. 58 Levee Board, Section 27-21-16.

Woodley & Collins are reaming to set 6-inch casing at 2,530 feet in No. 1 McVee, Section 23-19-14, 5 miles north of Columbia.

Claiborne Parish

Clark & Melat are arranging to set casing and test at 2,165 feet No. 1 Heard, Section 5-21-6, 5 miles northeast of Homer.

De Soto Parish

Fortuna Oil Co. is drilling at 1,830 feet in No. 1 Alexandria, Section 32-12-15, 5 miles east of Logansport.

Gulf Refining Co. is drilling at 900 feet in Willis Williams C-18, Section 31-13-11, in the old Naborton district.

The Texas Co. is drilling at 1,620 feet in No. 30 Christine, Section 6-12-11 in the Naborton Field.

Jackson Parish

El Dorado Chief Oil Co. shut down at 2,000 feet in No. 1 J. H. Rymes, Section 13-14-4w, 18 miles north of Winfield.

La Salle Parish

Gulf Refining Co. is drilling at 2,795 feet in Urania A-1, Section 2211-2e, 4 miles northeast of the discovery well. Goulf & Monroe Drilling Co. taking core at 1,490 feet, in No. 1 Harper, Section 23-10-1e, 2 miles southwest of the discovery well.

Helm & Burch are drilling at 700 feet in No. 1 Urania, Section 28-11-2e, 4 miles northeast of discovery well.

Imperial Oil & Gas Co. are moving in the rig for No. 1 Urania, Section 10-10-2e, 3 miles east of Urania.

Rowe and others tested salt water in three feet of sand and are now closed down waiting orders in No. 1 Urania, Section 7-10-2e, at 1,544 feet offsetting the discovery well on the north.

Zeigen and others are drilling at 430 feet in No. 1 Urania, Section 19-10-2e, offsetting the discovery well on the south.

Lincoln Parish

Gulf Refining Co. is drilling at 2,635 feet in No. 1 Dudley, Section 4-18-4w, 2 miles north and a little east of Ruston.

Ruston Drilling Co. is drilling at 420 feet in No. 1 Richardson, Section 7-18-2w, 9 miles northwest of Ruston.

Morehouse Parish

Natural Gas Producing Co. has a fishing job in No. 16 Crossett, Section 15-22-5 at 2,375 feet.

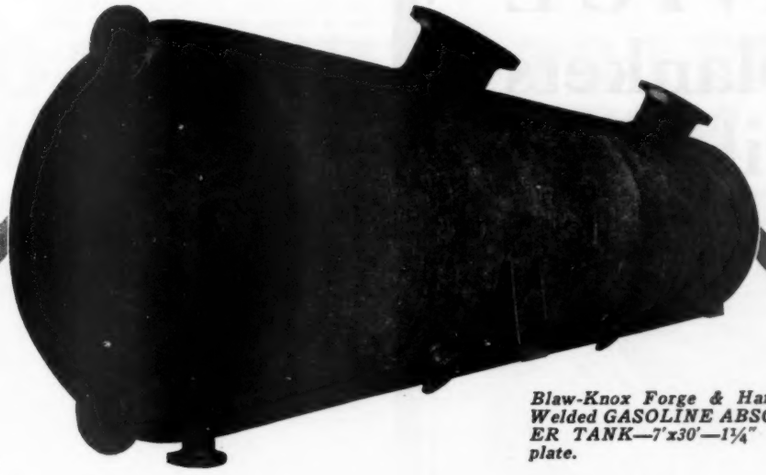
Sabine Parish

L. M. Emlet is drilling at 1,740 feet in No. 4 H. L. Bowman, Section 8-7-12, 3 miles southeast of Zwolle.

Union Parish

Roxana Petroleum Corp. is drilling in gumbo at 2,085 feet in No. 1 Henderson-Bennett, Section 13-22-3w, 15 miles northwest of Farmerville.

Ruston Drilling Co. is drilling at 2,110 feet in No. 1 James-Willer, Section 7-



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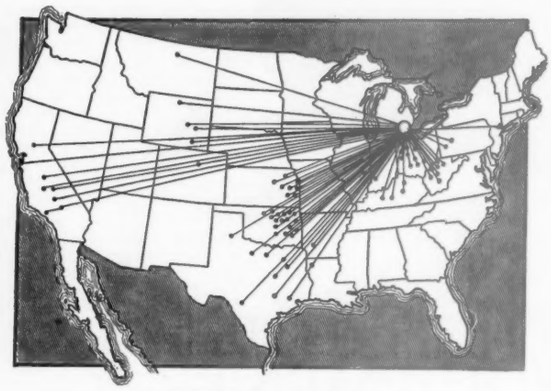

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20-4e, on the north edge of the Monroe Gas Field.

The Texas Co. set 8-inch at 875 feet in No. 3 Grayline, Section 20-21-4e, adjoining the Monroe Gas Field.

Arkansas Wildcats

Columbia County

Arkansas Fuel Oil Co. started drilling and is down 75 feet in No. 1 Longino & Goode, Section 14-18-20, 9 miles southeast of Magnolia.

Virgil Heath Tr. shut down at 2,906 feet in No. 1 Williams, Section 1-19-21, 11 miles south of Magnolia.

Hempstead County

J. G. Wooten is drilling at 1,865 feet in No. 1 Clarge, Section 22-11-24, 8 miles west of Prescott.

Zing and others are building a derrick on Sutton land in Section 9-11-23, 5 miles west and a little north of Prescott.

LaFayette County

Estes and others set 10-inch at 100 feet in No. 1 Bodcau, Section 13-18-24, 12 miles south and a little east of Lewisville, and 5 miles south G. W. Wetherbee is drilling at 1,460 feet in No. 1 Jeffus Section 8-19-23.

Humble Oil & Refining Co. has derrick up for No. 2 Bodcau-Riggins, Section 30-15-22, 10 miles northeast of Lewisville.

Miller County

Humble Oil & Refining Co. has taken over from J. A. Adams No. 1 Bale and started drilling it as No. 1 Mann, Section 15-16-26, 12 miles west of Lewisville and also started drilling No. 1 Bishop, Section 19-16-27, 5 miles southeast of Texarkana.

Nevada County

Greason and others are arranging to pump No. 3 McKinney, Section 10-14-21, 19 miles north of Magnolia.

Steele and others are drilling at 1,235 feet in No. 1 Wallace, Section 11-14-21, in the Nevada district.

White and others have derrick up for No. 1 Hamilton, Section 34-14-22, 10 miles northeast of Lewisville.

Zing and others are drilling at 1,320 feet in No. 1 Graves, Section 22-10-23, 7 miles northwest of Prescott.

Cotton Valley District

Fortuna Oil Co. completed the water well at 1,935 feet and is ready to resume drilling in No. 1 Bible, Section 8-20-9, and has bailed casing dry at 2,600 feet in No. 1 Branton, Section 16-22-9. It is also down 620 feet in No. 3 W. Cox, Section 15-21-10.

Gulf Refining Co. is waiting orders at 2,520 feet in A. J. Hodges A-1, Section 25-21-10.

Humble Oil & Refining Co. is drilling in gumbo at 2,490 feet in Bodcau B-19, Section 28-21-10; rig up for Bodeau C-1 Section 13-21-10; waiting orders at 2,520 feet in No. 6 Gray, Section 26-21-10. Set 10-inch at 380 feet in No. 1 Weaver Brothers, Section 25-21-10.

Kennedy and others are drilling a water well for No. 1 Ambrose, Section 19-20-10, 6 miles south of Cotton Valley.

Louisiana Oil Co. set casing at 2,530 feet in No. 6 Gray, Section 28-21-10, and drilling in shale at 1,065 feet in No. 1 Jackson, Section 27-21-10.

Ohio Oil Co. set 6-inch at 2,515 feet in No. 27 Bodcau, Section 15-21-10; set 6-inch at 2,545 feet in No. 31 Bodcau, Section 28-21-10; waiting orders at 2,570 feet in No. 9 Gray, Section 26-21-10; set 10-inch at 454 feet in No. 10 Gray, same section, and drilling in lime at 1,700 feet in No. 1 Hodges, Section 15-21-10.

Woodley Petroleum Co. is drilling at 1,100 feet in No. 3 Coyle, Section 28-21-10 and has derricks up for No. 4 Coyle, Section 28-21-10 and No. 3 Gray, Section 26-21-10.

GULF COAST

(Continued from Page 54)

No. 5-B Pickett is at 3,110 feet. No. 3-C Pickett is around 4,400 feet. No. 4-C is fishing and No. 6-C is rigging. Its No. 4 Schade is at 3,570 feet. No. 5 is at 3,323 feet. No. 6 is around 765 feet.

The Oxford-Navarro Oil Co.'s No. 9 Harrison is drilling at 3,010 feet. No. 10 is below 2,300 feet.

The Bashara Oil Co.'s No. 3 Pickett is sidetracking at 2,355 feet. No. 4 is at 2,670 feet and No. 5 below 1,900 feet.

Mills Bennett's No. 10 Pickett is at 3,465 feet. No. 2 Rivere-Brown is at 4,835 feet, the deepest test in the pool to date.

Mrs. Neils Esperson's No. 1 Baldwin is at 4,355 feet.

The Texas Co.'s No. 2 Staiti is drilling at 3,576 feet. A derrick is up for No. 3. No. 2 Simms fee is drilling at 3,635 feet, No 3 is below 3,300 feet and No. 4 is at 2,985 feet.

The Monarch Oil & Refining Co.'s No. 3 Harrison is deepening at 3,480 feet. No. 4 is at 3,570 feet and No. 6 at 3,516 feet.

The Vacuum Oil Co.'s No. 8 Barrett is drilling at 3,390 feet. Abercrombie Oil Co.'s No. 4 Harrison is at 1,700 feet.

This is a total of 39 wells drilling in the pool with 5 rigs in. All the wells drilling, with the exceptions noted, are on the northeast side of the dome.

Hull Pool

The Dolbear 800 acres on the east side of the Hull Dome and operated jointly by the Republic Production and Houston Oil Cos., furnished most of the new production developed during the week. Their No. 114 is making 2,000 bbls. at 2,420 feet. No. 115 is flowing 800 bbls. and No. 116 is flowing 1,200 bbls. at 2,456 feet. No. 19, a worked over hole, is making 500 bbls. at 1,820 feet. On the Phoenix lease, on the southeast side, the Gulf Production Co.'s No. 31, a workover, is flowing 1,500 bbls., 25 per cent water, at 3,080 feet, and No. 49 is making 200 bbls., 25 per cent water. The Humble Oil & Refining Co. worked over No. 7 Guedry into a 200 bbl. well at 3,200 feet. The Eagle Point Oil Co. abandoned No. 4 Wheelock at 742 feet. The Humble Oil & Refining Co.'s No. 2 Merchant is pumping 800 bbls., 50 per cent water, at 4,150 feet. It came in 10 days ago, flowing initially 3,000 bbls. then increased to 5,000 bbls. and suddenly quit. Last week it was put on the pump, making 600 bbls.

The Republic Production-Houston Oil Co.'s Nos. 20 and 95 Dolbear are rigging to work over. No. 102 quit flowing and is going on the jack. No. 113 is drilling at 2,655 feet. No. 117 is rigging. It is a new well. The Gulf Production Co.'s No. 20 Morris-Phillips is drilling at 4,143 feet. No. 10 Phoenix, an old hole, and Nos. 52 and 53 Phoenix are rigging. The Texas Co.'s No. 4 Hannah is rigging. The Yount-Lee Oil Co.'s No. 7 Stengler is drilling at 1,985 feet. No. 11 Merchant is at 4,000 feet. The Houston Production Co.'s No. 9 Taylor is rigging. The Humble Oil & Refining Co.'s No. 2-B Hannah is at 3,675 feet. The Mecom Oil Co.'s No. 8 Taylor is drilling at 4,015 feet. The Higgins Oil & Fuel Co.'s No. 6 Taylor is at 4,080 feet. The Sterling Oil Co.'s No. 1 Slade is rigging to start drilling.

Goose Creek Pool

In the Goose Creek Pool, the Humble Oil & Refining Co.'s No. 62 Smith is bailing at 2,100 feet.

The same company is drilling No. 60 Smith at 4,325 feet and milling No. 61 Smith at 3,815 feet. No. 1 Hog Island is shut down. The Gulf Production Co.'s No. 17 J. Galliard is at 4,180 feet. No. 33 State land, in the bay, is at 2,765 feet. No. 9 Chapman-Bryan is at 4,286 feet and No. 16-A Wright is sidetracking at 2,435 feet. No. 16 H. Buach is around 3,010 feet. The Gulf Coast-United Central Oil Co.'s No. 6 Galliard is working over. The Bruce Petroleum Co.'s No. 1 Scorrgea, north of production, is sidetracking.

Hardin County Pools

The new deep sand on the north side of the Saratoga Pool found by the Rio Bravo Oil Co. two months ago at 2,669 feet, does not look very promising. The Yount-Lee Oil Co.'s No. 1 Parrish there got salt water at 2,650 feet. The Rio Bravo oil Co. is bailing Nos. 1 and 2 Fountain, offsets to its producer, at 3,050 and 2,725 feet respectively. In other parts of the pool, the Paggi Brothers Oil Co.'s No. 2 Brooker is shut down at 776 feet and No. 4 Houke is drilling at 655 feet. The Weldon Oil Co.'s No. 5 Bradley is fishing.

In the Sour Lake Pool, the Lake View

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Oil Co.'s No. 42 Hardin is a 45-bbl. well. at 1,550 feet.

In the Batson Pool, the East Batson Oil Co.'s No. 13 State land is drilling at 1,165 feet and the Paraffine Oil Co.'s No. 40 Paraffine is drilling below 1,000 feet. Anderson & Munson's No. 2 Hodges is pulling the strainer to work it over.

Other Pools

In the Spindletop Pool, the Stella Oil Co.'s No. 18 Hogg-Swayne is pumping 30 bbls. at 854 feet. The Wonder Oil Co.'s No. 3 Herbert is drilling at 535 feet.

In the West Columbia Pool, the Humble Oil & Refining Co.'s No. 13 Tyndale-Wyoming is pumping 10 bbls. at the shallow depth of 380 feet. No. 14 is drilling below 900 feet. No. 2 Wilson is at 1,655 feet. The Hyde Production Co.'s No. 1 Lee is drilling at 1,310 feet. The Underwood Co. is starting No. 1 fee. Locations have been made for Nos. 7 and 8 McGregor.

In the Humble Pool, the Southern Petroleum Co.'s No. 43 Landslide is standing.

At Blue Ridge, the Gulf Production Co.'s No. 11-C Blakely is drilling at 1,224 feet and The Texas Co. is starting No. 13 Robinson, on the northwest side of the dome.

South Louisiana

In the Vinton Pool, the Edgerly Petroleum Co.'s No. 3 Vincent bailed salt water at 3,234 feet.

In the Edgerly Pool, the Gray Oil Co. is sidetracking No. 11 Lilliard from 4,110 feet. The Roxana Petroleum Corp.'s No. 1 Hunter is idle.

In the Lockport district, near Lake Charles, the Vacuum Oil Co.'s No. 2 Miller is blowing gas, sand and water at 4,360 feet. No. 3 Miller is drilling below 3,654 feet. No. 1 Farquhar is fishing at 2,450 feet. No. 1-B Phoenix is rigging. The Marland Oil Co.'s No. 1 Phoenix is rigging.

Southwest Texas

The Saxtet Oil Co.'s No. 3 Dunn, 4 miles west of Corpus Christi, is a gas well.

The Humble Oil & Refining Co. is drilling No. 2 Cross in Kleberg County. H. L. Brockhart and associates, of Fort Worth, are starting a test southwest of Reagan, near Marlin.

In Jackson County, the Jackson County Syndicate's No. 3 Drushell is drilling at 2,600 feet. It is 7 miles northwest of Edna. The Houston Oil Co.'s No. 1 Rose, in the same section, is drilling at 1,655 feet. A location has been made for No. 2 Rose. No. 1 Westhoff set surface casing. The Houston Oil Co.'s No. 1, in Goliad County, is below 2,200 feet. Same company is drilling two wells on its Cartwright lease in Live Oak County, with derricks standing for two more. The pipe for the gas line from Live Oak County and also for the 12-inch line from west of Edna to Gulf Hill, in Matagorda County, is arriving and the work of laying will commence during the coming week.

The Cardinal Oil Co.'s No. 1, in Bastrop County, is drilling below 3,100 feet.

Out in West Texas, J. S. Coseen's No. 1 University lands, in Crockett County, 12 miles southeast of the Big Lake Field, got nothing at 3,115 feet and is being deepened. The Gulf Production Co.'s No. 1 University lands, 5 miles south of the Big Lake Field, is drilling at 2,777 feet.

In the Rockdale-Minerva shallow sand section of Milam County, the Clear Lake Oil Co. started No. 1 Coulter and the J. E. Lee Oil Co.'s No. 1 Isaacs. The deep test of the Magnolia Petroleum Co., on the Kimes land, in that county, is drilling below 2,100 feet.

In Duval County, locations have been made by the Associated Oil Co. for No. 1 Sutherland and by the Booth Brothers for No. 1 Peters Ranch. The Mesquite Oil Co. set liner in No. 1 fee. The Cooperative Drilling Co.'s No. 1 Dinn is idle at 2,070 feet. O. K. William is starting Nos. 2 and 3 Arispe.

In Zapata County, B. K. Bateman is drilling No. 1 on survey No. 614. H. J. McMullen has locations for Nos. 2 and 3 Vela. The Texas Co. hsa a location for No. 1 Cuellar.

The Magnolia Petroleum Co.'s No. 15 Ochoa, in the Westcott Pool, in Webb County, is bailing with 300 feet of oil standing in the hole at 1,640 feet.

OKLAHOMA

(Continued from Page 40)

The Papoose Oil Co. has completed No. 8 SE cor. NE SW Section 21-15-14 for 253 bbls. naturally in sand 2,192-97 feet. M. L. Carr's No. 40 CWL NE NE, Section 34-15-14 is dry and abandoned at 2,142 feet.

In Other Areas Near Okmulgee

North of Morris, the Magnolia Petroleum Co. has a rig and tools on the ground for No. 3 SW cor. SE Section 10-14-14. Drew Beams and others are drilling at 450 feet in No. 4 C S half SE Section 15-14-14. W. R. Summerville's No. 12 NE cor. SW SE Section 21-14-14 is dry and abandoned at 2,425 feet. The Roxoline Petroleum Co. is rigging up a machine for No. 6 NW cor. NE NW Section 21-14-14.

Near Eram, C. E. Campbell has sudded No. 3 C SW NE Section 30-13-15. Southeast of Okmulgee, Alex Boys and others have a rig up for No. 1, SW cor. SE SW, Section 3-12-10. The Central National Oil Co. has a rig and tools in for No. 1 NE cor. SE Section 28-12-10. The Atlantic Oil Producing Co. has completed No. 4 Fisher SW cor. NW SE Section 36-12-10. Sand was 3,027-37 feet and the well did 314 bbls. natural.

West of Okmulgee, the Wood Oil Co. is building the rig for No. 4 SW cor. NW SW Section 14-13-11. J. A. Swindler is drilling at 400 feet in No. 2 SW cor. NE Section 25-13-11. E. R. Black's No. 1 NE cor. SW SE Section 28-13-11 had sand 2,485-86 feet with the well making 165 bbls. natural. He is trying to clean out to run a liner.

King Jackson and others No. 2 SW cor. NW SE Section 11-32-12 is drilling at 325 feet. John L. Brock Jr. and others' No. 3 SE cor. NE SW Section 11-13-12 is shut down. It had a show of oil in sand 2,047-75 feet.

The Magnolia Petroleum Co. has completed No. 1-A SE cor. SW SW Section 28-13-12. Sand was 2,448-63 feet and the well is good for 60 bbls. naturally.

Keaton, Gold and others have a rig on the ground for No. 1 SE cor. NE NE Section 14-12-11.

The Independent Oil & Gas Co. and C. L. McMahon have completed No. 1 NE cor. SW SW Secvtion 33-12-11. Sand was 3,617-66 feet, and the well made 500 bbls. daily. The Independent Oil & Gas Co. and C. L. McMahon have a rig on the ground for No. 2 NW cor. SW SW Section 33-12-11 and for No. 3 SE cor. SW SW Section 33-12-11. The Josey Oil Co. has comleted No. 65 SW cor. NW Section 33-12-11. Sand was 2,910-12 feet and the well made 685 bbls. naturally.

The Independent Oil & Gas Co.'s No. 2 NE cor. SE SW Section 33-12-11 had sand at 2,705-11 feet, break to 2,717 feet sand 2,717-20 feet, with a show for 125 bbls. The Josey Oil Co.'s No. 3 SE cor. NW NW Section 33-12-11 had sand 2,673-85 feet with 5,000,000 feet of gas. It is drilling at 2,700 feet. Its No. 3 SW cor. NE SW Section 33-12-11 has a hole full of oil in sand 3,662-87 feet. It is drilling at 3,687 feet.

In Tiger Flats the Continental Oil Co. is drilling at 210 feet in No. 1 NW cor. NE Section 20-12-12. The Simms Oil Co. is spudding No. 4 NW cor. NE Section 31-12-12, and drilling at 2,160 feet in No. 3, NW cor. SW NE, Section 31-12-12.

A. D. Morton and others have completed No. 3 CWL SW NE Section 7-12-12. Sand was 2,577-89 feet, and the well made 240 bbls. naturally.

The Aztec Oil Co. has abandoned the rig for No. 4 NW cor. NE SW Section 31-12-12.

Pottawatomie County

Near Shawnee, the Central National Oil Co. is drilling at 350 feet in No. 1 Toney, SW cor. SW, Section 28-10-4.

The Texas Co. is drilling at 500 feet in No. 1 SE cor. SW Section 3-11-6.

Seminole County

The wildcat well of C. J. Wrightsman

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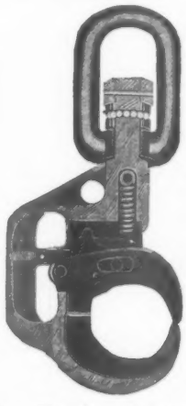

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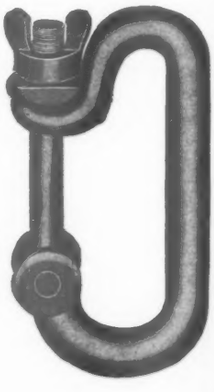

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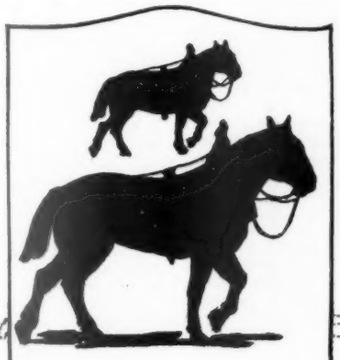

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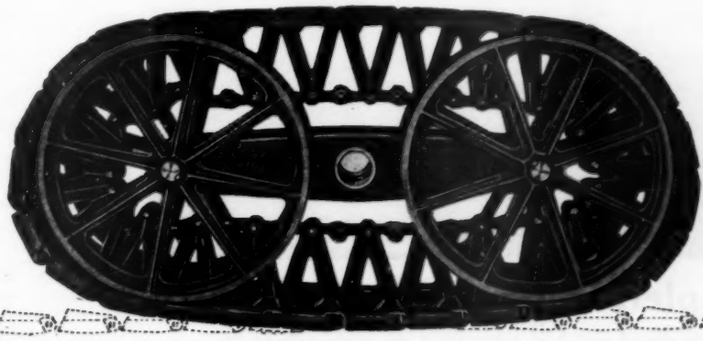

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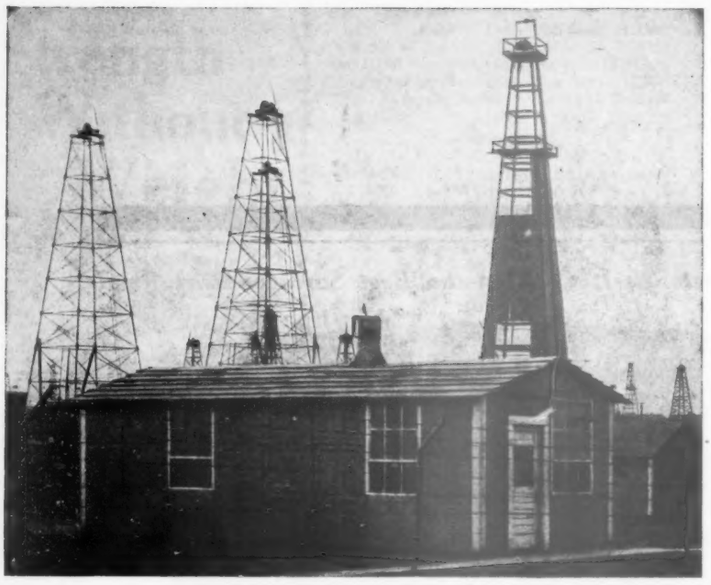

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No. 1 SE cor. SW NW Section 26-11-7, is dry and abandoned at 4,395 feet.

Otoe Pool, Pawnee County

The Magnolia Petroleum Co.'s No. 1 NW cor. SW NE Section 4-22-3 is dry and abandoned at 3,365 feet; No. 3 SW cor. NW NE Section 4-22-3 is dry and abandoned at 4,171 feet, and No. 1 NW cor. SW Section 9-22-3 at 4,290 feet.

Other Pawnee County

North of the Bement well, Haley-Garber-Pulse's No. 1 NE cor. SW Section 5-23-5 is dry and abandoned at 3,318 feet. Their No. 1 SE cor. cor. NW NE Section 5-23-5 had Bartlesville sand at 3,167-96 feet and was shot with 40 quarts; the Burgess sand 3,271-94 feet shot with 50 quarts; total depth 3,303 feet. The well is a 10-bbl. pumper.

Jim Glenn's No. 4 NW cor. SE SE Section 16-20-6 has oil 2,928-63 feet total depth 2,995 feet. It was shot with 40 quarts and is good for 50 bbls. oil and 25 bbls. water.

The Magnolia Petroleum Co.'s No. 7 Lesher NW cor. NE NE Section 21-20-6 has a 40-bbl. show from sand 3,110-20 feet. It will be shot.

The Westerly Oil Co.'s No. 6 Smith, SE cor. SW SW, Section 22-20-6, has 1,000 feet of oil in the hole from sand at 3,048-76 feet. The company is fishing for lost casing. Wasson & West's No. 1-A, SE cor. NW SW, Section 19-21-8, is drilling at 835 feet with a machine. The Mid-Continent Petroleum Co. has a rig on the ground for No. 12, NW cor. SW SW, Section 16-20-7.

Payne County

The Josey Oil Co. has completed No. 5, SE cor. SE, Section 35-19-5. Sand was 3,416-56 feet and the well made 840 bbls. originally and is now making 750 bbls.

It is drilling at 126 feet in No. 6, SE cor. SW SE, Section 35-19-5; at 412 feet in No. 7, SW cor. SE SE, Section 35-19-5; has a rig up for No. 5, a quadruple location, NW cor. NW, Section 1-18-5; and has shut in No. 1 Wright, CNL NE, Section 11-18-5, for a gas well. Sand was 3,092-3,103 feet and the well is good for 5,000,000 feet of gas.

Osage County

The Mid-Continent Petroleum Co.'s No. SW cor. NW SW Section 24-21-8 is completed for a 12-bbl. pumper in a stray sand 901-914 feet.

Ramsey Oil Co. is drilling at 300 feet in No. 1 SW cor. NE Section 10-27-11. The Midland Oil Co. is moving in tools for No. 1 SW cor. NW Section 12-25-5. The Texas Co. is drilling at 280 feet in No. 1 NW cor. SW Section 10-25-10.

The Number One Oil Co. has completed No. 6 SW cor. SE SW Section 17-24-9. Pay was 2,173-2,224 feet, total depth 2,234 feet. The well was shot with 60 quarts and made 40 bbls. the first 8 hours.

C. Constantine's No. 2 NW cor. NW Section 27-24-10 had the Cleveland sand 1,273-86 feet and is being cleaned out after a shot of 60 quarts.

The Mid-Kansas Oil Co. has a machine rigging up for No. 3 SW cor. NE Section 33-25-11. The Delmar Oil Co. is drilling at 155 feet in No. 1 SE cor NW Section 33-25-11. The Mid-Kansas Oil Co. has spudded No. 3 NW cor. SE Section 33-25-11. The Devonian Oil Co.'s No. 1 NW cor. NE Section 34-25-11 is dry and abandoned at 2,324 feet.

The Barnsdall Oil Co.'s No. 3 CSL NW SW SW Section 2-24-11 is spudded. The Owen-Osage Oil Co.'s No. 326, SE cor. NE NW, Section 32-24-12, is drilling at 500 feet.

The Texas Co. has completed No. 12 CWL, NE Section 29-25-8. Burgess sand was 2,415-25 feet total depth 2,428 feet. The well is estimated at 30 bbls. The Lewis Oil Co. has completed No. 3 CEL SE NW Section 29-25-8. Burgess sand was 2,466-84 feet, first oil at 2,568 feet. The well did 72 bbls. the first 18 hours. The Texas Co.'s No. 1 SE cor. SE Section 25-22-8 is dry and abandoned at 2,492 feet. The Indian Territory Illuminating Oil Co.'s No. 3 NE cor. NW NW Section 1-21-8 is drilling at 320 feet.

Jefferson County

The Pure Oil Co. has rig timbers on the ground for a combination rig No. 1 SW cor. NE Section 25-4s-6w.

Pauline-Clark & Cowden have timbers on the ground for a rotary test in No. 1 C NE SW Section 17-5s-8w. The Prairie Oil & Gas Co. has completed No. 3 James NW cor. SW Section 34-6s-5w. Sand was 1,200-12 feet, total depth 1,215 feet and the well did 215 bbls. naturally. The Humble Oil Co. No. 1 Ages had gas sand 672-835 feet, total depth 872 feet, with 50,000,000 feet of gas. It will probably be mudded off.

Stephens County

In the Duncan Field, Pierce & Brown's No. 3 Wilkinson NW cor. SE Section 27-1s-8w, had sand 1,682-89 feet, break 1,689-90 feet, sand 1,690-95 feet. It swabbed 50 bbls. the first 12 hours.

Crump & Beard have completed No. 4 Cantrell CWL NW SE Section 32-1s-8w for 35 bbls. from sand 2,258-67 feet. Crump & Beard have completed Co. 5 Key CSL SW NE Section 32-1s-8w for 35 bbls. from sand 2,258-67 feet.

Kinkler and others are rigging up rotary tools for No. 2-A SE cor. SW Section 18-2s-7w. The Mid-Kansas Oil Co. is building a rig for No. 5 NW cor. NE NW Section 19-2s-7w.

I. R. McQueen has completed No. 6 Britton CNL SW SW Section 20-1s-8w. Sand was 2,261-85 feet and the well made 20 bbls. naturally. P. Briscoe's No. 1-A CNL NE NE NW Section 31-1s-8w, had sand 2,626-32 feet, and the hole filled up 300 feet with oil in 6 hours. It will be drilled deeper.

Crump & Beard are rigging up to drill an old well deeper. No. 4 CSL SW SW NE Section 32-1s-8w. Old total depth is 2,199 feet. Crump & Beard are building the rig for No. 1-A NE cor. SW Section 32-1s-8w. This is a twin to No. 1.

The Magnolia Petroleum Co. has completed No. 4-A NE cor. SE Section 33-1s-8w. Sand was 2,203-04½ feet, total depth 2,206 feet. The well was plugged back to 2,204½ and is good for 5 bbls.

Carter County

The Amerada Petroleum Corp. is drilling at 300 feet in No. 8 Griner CSL NE NE NW Section 20-5s-1. It spudded No. 4-A Farar C SW NE Section 20-5s-1. Max Westheimer's No. 3 fee, CNL NE NW, Section 28-5s-1, is dry and abandoned at 1,145 feet.

Buttram and others have a rig up for No. 1 SW cor. SW Section 31-4s-1w. The Humble Oil Co. is drilling at 560 feet in No. 16 NE cor. SW SW Section 9-4s-2w.

Schermerhorn and others have completed No. 9 Sparks, CSL SW SW, Section 30-2s-2w. It is good for 65 bbls. on the pump from broken sands 2,388-2,775 feet. The Patsy Oil Co.'s No. 5-B Palmer NE cor. SE SE Section 31-2s-2w, is good for 30 bbls. from sand 2,668-70 feet. It is not completed.

The Humble Oil Co. is rigging up a rotary for No. 16 Hewitt Walker NE cor. SW SW Section 9-4s-2w. The Humble. is rigging up a rotary for No. 1 Mayer NE cor. SE NW Section 8-3s-2w. Schermerhorn and others have a rig for No. 1 Colbert NW cor. NE Section 8-3s-2w. Baker & Strawn have completed No. 80 Dillard, CNL NW NW NW Section 22-4s-2w. It is good for 30 bbls. from sands 1,883-2,050 feet. the sands are broken.

Grady County

The Tuttle Oil & Gas Co. has a failure in No. 1 Williams SW cor. SE NE Section 10-9-6w, total depth is 2,753 feet.

Arrasmith and others have a dry hole at 3,294 feet in No. 1 Mayo NE cor. SE Section 17-5-7w.

MEXICAN FIELDS

(Continued from Page 44)

Co.'s No. 20 Barbarena cemented 10-inch casing in gray lime at 1,165 feet.

South Fields

In the South Fields, Huasteca Petroleum Co.'s No. 59 Cerro Azul is in gray shale at 2,164 feet; No. 61 is in blue shale at 795 feet; Nos. 63 and 64 are in gray shale at 990 and 1,640 feet respectively. Down in Tierra Blanca, Huasteca's No. 37 is in gray lime at 1,967 feet; No. 41 is in brown lime at 2,060 feet; No. 45, in gray lime at 2,067 feet; No. 46, in blue shale at 420 feet, and two locations have derricks up. Up in Tres

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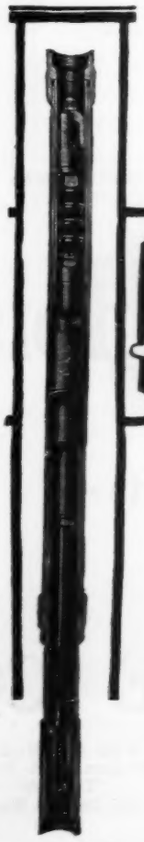

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Hermanos, Huasteca's No. 7 is in gray shale at 4,084 feet and No. 9 is in a lime at 2,850 feet. To the east, in Granadilla, its No. 1 is in gray shale at 4,774 feet. Mexican Eagle Oil Co.'s No. 2 Mecapepec, way south of the Tuxpam River, is in hard sandstone at 3,293 feet; No. 1, Lot 2, Escobal, is in gray shale with sand traces at 1,775 feet. The status of its other active tests remain unchanged. Cortez Oil Corp.'s No. 11 Aguada is in gray lime at 4,175 feet, and No. 6, Lot 199, Amatlan, is in gray shale at 1,450 feet. International Petroleum Co.'s No. 50 Toteco has shut down temporarily with a broken crank shaft at 2,137 feet, lime. Mexican Fuel Co.'s No. 10, Lot 163, Chinampa, is in shale and boulders at 900 feet. Penn Mex Fuel Co., south of the Tuxpam River, is moving in for No. 2 Paso Real and rigging for No. 15 Jardin.

Corcovado

In the Corcovado sector of the northern fields drilling operations are best epitomized as follows: Cosmos Oil Co., in Lot G: No. 15 is fishing tools at 1,520 feet, and blowing considerable gas; No. 17 is blue shale at 600 feet; No. 51, cemented 8-inch casing in the San Felipe at 1,225 feet, and Nos. 53 and 54 have done likewise at 1,280 and 1,290 feet, same formation. Three tests are waiting for cement to set around 8-inch casing as previously reported, and no less than 15 are moving in or rigging preparatory to making hole. La Corona Petroleum Co.'s No. 9, Lot 6, is in the San Felipe at 1,180 feet; No. 6, Lot 11, is in the San Felipe at 1,725 feet, and No. 7, same lot, cemented 8-inch casing in the same formation at 1,300 feet. Mexican Sinclair Petroleum Corp.'s No. 7-A, Lot 1, is in shale at 220 feet. Mexican Gulf Oil Co.'s operations in Lot 4 follow: No. 17-A is in gray lime at 1,985 feet; Nos. 27, 30 and 33 are all three in the San Felipe at 1,430, 1,145 and 1,490 feet respectively; and No. 5 Chapacao is in hard shale at 309 feet. Transcontinental Petroleum Co.'s No. 6, Lot 6, will cement 10-inch casing in the San Felipe at 1,250 feet. Rich Mex Oil Co.'s No. 3-B, Lot 2, shut down at 2,460 feet in the San Felipe, too deep for much hope.

Ebano

In the Ebano sector, Mexican Petroleum Co.'s operations in the Chapacao follow: No. 10 is a deep hole in the Tamasopa at 2,367 feet; No. 20, in gray lime at 1,475 feet; No. 23, a black slate at 2,430 feet, another deep hole; No. 26 is cementing 8-inch casing in gray lime at 1,390 feet; No. 30, in gray shale at 860 feet; No. 31, cemented 8-inch casing in gray lime at 1,325 feet; No. 32, cemented 10-inch casing in shale and lime at 1,403 feet; No. 33, in blue shale at 740 feet; No. 35, cemented 8-inch casing in shells at 1,270 feet; No. 30 Chijol is fishing a 10-inch bit in shells at 1,360 feet, and No. 6 Mendez is rigging. National Lines, in its Chapacao right-of-way, has the following: No. 3 is in gray lime at 1,740 feet; No. 4 is in gray shale at 840 feet; No. 8 is in the Tamasopa with the hole full at 2,365 feet.

Miscellaneous Tests

At Los Esteros, American International Fuel Co.'s No. 17 is in gray lime at 1,106 feet and No. 18 cemented 10-inch casing in hard gray lime at 930 feet.

In the Topila sector, East Coast Oil Co.'s No. 4, Lot 2, Tamboyoche, cemented 8-inch casing in hard gray shale at 1,608 feet. Globe Petroleum Co.'s No. 5, Lot 80, Quebrache, is 400 feet in gumbo.

In the Marland Field, Cia. Pet. Franco Espanola's No. 27 Limon cemented 8-inch casing in gray lime at 1,225 feet; No. 28 is in hard shale and lime at 793 feet, and two tests are rigging.

In the Caracol, Venable and others' No. 24 is in gray lime at 1,812 feet.

J. L. MURRAY RETIRES

BLOOMINGTON, Ill., May 18.—J. L. Murray, known throughout Illinois because of his activities in the National Petroleum Marketers Association and the Illinois Oil Jobbers Association, has retired from the Cornbelt Oil Co.

RAILROAD COMMISSION VISITS TEXAS FIELDS

HOUSTON, Tex., May 18.—The members of the Texas Railroad Commission are familiarizing themselves with trade conditions in the oil producing sections of the State by visiting the regions and investigating. The commission is called upon to adjust many rate and regulation cases and a personal knowledge of conditions will aid the members in their work. The Panhandle and North Central sections have been visited. The members of the commission will now visit the Beaumont-Port Arthur section in which four big refining plants are located. In addition, the trunk lines of The Texas Co., Gulf Co., Magnolia Petroleum Co., Pan Oil Pipe Lne Co., and the Coastal system of the Sun Oil Co. terminate in that region. The Railroad Commission exercises jurisdiction over the production and transportation ends of the oil industry in Texas.

The railroads are extending their tracks to meet increasing traffic from the refineries in the Beaumont-Port Arthur district. In the Houston district, the Galena-Signal Oil Co. of Texas is building four miles of railroad to connect its refinery at Galena and its tank farm at Norsworthy with the Houston Belt and Terminal Railway, whose system circles the city and connect with the various roads entering the city. The Galena plant has been connected with the Southern Pacific tracks.

Traffic managers for the large oil companies are interested in the changes that are taking place in the railroad situation in Texas. The Missouri Pacific has acquired control of the International and Great Northern system, extending from northeast Texas to Houston and the Gulf, with a line to San Antonio and the border at Laredo. The Missouri Pacific has also also taken over the Gulf Coast lines, extending from Brownsville on the Rio Grande River, skirting the Gulf of Mexico and then eastward to New Orleans, via Houston and Baton Rouge. This puts the Missouri Pacific in direct competition with the Southern Pacific railroad in territory previously exclusively Southern Pacific. While no reduction in rates is anticipated, traffic managers say the handling of traffic will be faciliated. The Southern Pacific has acquired the Tex-Mex railway, extending from Laredo west to Robestown, near Corpus Christi. The tank car shipments of crude from the Webb County Pools and the Jim Hogg County Field are handled by the Tex-Mex railroad. The purchase of that line gives the Southern Pacific entrance to Laredo and a direct connection with the National Railways of Mexico at that point.

The Kansas City Southern railway, extending from Kansas City to the Beaumont-Port Arthur district, has been absorbed by an Eastern trunk line, which will benefit the oil industry by speeding up traffic originating in the refineries at Beaumont, Smith Bluff and Port Arthur.

Advices from Washington state the Interstate Commerce Commission has disapproved proposed rate increases on petroleum and its products from Gates, Port Arthur and other points in the Beaumont-Port Arthur district, to points in Oklahoma and Kansas. The new rates were to become effective February 5 last, but were suspended by the Interstate Commerce Commission pending an investigation. The railroads claimed the new rates were for the purpose of correcting an error. The Commission thought they were too high, but gives the carriers permission to establish another schedule more in harmony with rates on other classes of freight in the territory effected.

OIL RATES NOT JUSTIFIED

WASHINGTON, D. C., May 16.—The Interstate Commerce Commission has held that the proposal of various western roads to increase rates on petroleum and its products from Gates and Port Arthur, Tex., Ardis, La., and other points in Texas and Louisiana to points in Kansas and Oklahoma were not justified. Schedules carrying the increased rates were ordered canceled July 4.

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New Mexico Field Operations

ARTESIA, N. M., May 17.—After being shot with 280 quarts between 1,989 to 2,050 feet, the Maljamar Oil Co.'s No. 2, located in the SE quarter of the NE quarter of Section 28-18-28, flowed a stream of oil to the top of the machine mast for 30 minutes. This completion is believed to be the largest in the field, the oil coming through the 8-inch casing. The amount of oil, however, is too great for the gas pressure and 6-inch will be run immediately. This is the second large completion for the William Mitchell interests which also own the Twin Lakes and Seven Rivers companies. The latter company's No. 1, in the SW quarter of the NW quarter of Section 29-18-28, has proved a decided disappointment, it being dry at 2,175 feet. It will be drilled to 2,350 feet and shot, according to Superintendent Baish.

After making considerable oil from around 2,230 feet, the California No. 1 test of A. R. Goodale, in Section 30-18-29, has again failed to find sufficient sand to make the well a commercial producer. It is now making 500,000 feet of wet gas from 2,179 feet, and geologists are of the opinion that it will be necessary to drill close to 2,500 feet before finding the pay.

After drilling into the sand around 2,250 feet, the Flynn, Welch & Yates' No. 1 on the Dunn permit, in Section 10-18-28, has a bit in the hole. The completion of this well, together with the good showing obtained in the Goodale and the big production obtained on the Maljamar lease, has linfluenced a number of operators to play a northeasterly extension. As a result, leases in that direction have been changing hands at good prices.

Of considerable interest is the starting of active operations by the Texas Production Co., which is a subsidiary of The Texas Co. A location has been made in the SE cor. of Section 5-18-28, offsetting the New State's No. 1 producer to the west.

Another of the major companies to start operations in the proven area is the Ohio Oil Co., who has moved tools in on its No. 1 location in the NW cor. of the SE quarter of Section 28-18-28. This is on the acreage purchased last week from Toomey-Allen and adjoins valuable holdings of the Twin Lakes Co. on the east.

Fishing jobs above delayed a number of completions in the proven area and this field is expected to have about 50 producers within the next 30 days.

On the west side, the McNutt, Simpson's No. 1 continues to prove a disappointment, being dry at around 2,300, feet, but it is expected this will be made into a deep test. Such would be looked upon with interest by local operators, many of whom are of the opinion that a more prolific sand lays around 3,000 feet.

Drilling Report

Arnott & Gross' No. 1, drilling, 800 feet; Bailey & Cragin's No. 1 Randolph permit, drilling 530 feet; Brainard permit No. 1, drilling 1,600 feet; George Bobb's No. 1 Thompson permit, setting 8¼-inch casing; C. J. & W. Oil Co., drilling 890 feet; R. D. Compton's No. 1, setting 8¼-inch casing at 630 feet; California No. 1 of A. R. Goodale, drilling 2,250 feet; Compton and others' No. 1, drilling at 1,200 feet; D. C. Chessman's No. 1, drilling 2,000 feet; Danciger Oil & Refining Co.'s No. 1 Kaseman, drilling 1,200 feet; Dancigar Commings' No. 1 drilling 1,348 feet; Dancigar's No. 1, Section 20-18-28, drilling 500 feet; Gilliland Oil Co.'s No. 1, swabbing 75 bbls.; Hugh Burch's No. 1, drilling 400 feet; Snowdon-McSweeney's No. 1 McNutt permit, tools enroute to lease; Snowdon-McSweeney's No. 1, drilling 1,540 feet; Illinois, McNutt, Simpson's No. 1, drilling 2,320 feet; Illinois' No. 11, ready to drill in; Illinois' No. 12, fishing; Illinois' No. 13, drilling 1,540 feet; Illinois' No. 14, drilling 1,900 feet; Illinois' No. 15, rigging up; Levers' No. 1, drilling 850 feet; Marland-Hogan-Johnson's No. 1, drilling 750 feet; Mesa Oil Co.'s No. 1 on Dawson permit, shut down at 500 feet; Maljamar's No. 2, drilled in; Maljamar's No. 3, drilling 1,300 feet; Miller Olson's No. 1 on Olson permit, drilling around 2,000 feet; New States Oil Co.'s No. 2, ready to drill in; Ohio Oil Co.'s No. 1 Section 28, rigging up; Ohio Oil Co. on Merchant lease, drilling below 2,300 feet; Ohio Oil Co.'s No. 1 Tracy permit, drilling below 2,350 feet; Ohio Oil Co.'s No. 1 McCullough permit, drilling 1,300 feet; Philip L. Bixby, location made in Section 4-18-28; Royal Duke's No. 2 drilling 1,900 feet; Rotary Oil Co.'s No. 2, drilling 2,050 feet; Twin Lakes Oil Co.'s No. 4, drilling 100 feet; Sandburg Petroleum Co.'s No. 1, drilling 850 feet; Sandburg & Mills' No. 1, drilling 200 feet; Seven River Oil Co.'s No. 1, dry at 2,150 feet; The Texas Co. moving in tools for No. 1 in Section 5-18-28; V. K. F. Drilling Co.'s No. 1, drilling 1,300 feet; Nan Welch Dunn's No. 1 permit, fishing, and Wells' No. 1 to set casing at 1,675 feet.

DOHENY DRILLING PLAN FOR HIS NEW COMPANY

NEW YORK, May 16.—One of the most important features of the deal by which E. L. Doheny recently disposed of his eastern and Mexican oil holdings to the Standard Oil Co. of Indiana and other interests, is the fact that the money derived from this transaction will give his new western organization—the Pan American Western Petroleum Co.—$85,000,000 for its future development.

Mr. Doheny is quoted as saying that all "this money is eastern money—new money—which will be used in developing the western oil business." The article continues: "Many persons are eager to know where the new Doheny company will do most of its petroleum development work during the next few years. It will find a great outlet for its field activities here in California. Right now it is starting a drilling campaign in a new part of one of the old Kern County fields, where, according to Pan American officials, the organization has almost a sure shot to get oil.

"It is hardly probable that Mr. Doheny will undertake the development of oil in New Mexico, Arizona, Colorado or Utah. It is quite possible that the company will undertake to develop promising leases in western Texas. Mr. Doheny does not intend to prospect for petroleum in Alaska."

D. W. MOFFITT SPEAKER TO MISSOURI OIL MEN

KANSAS CITY, Mo., May 18.—D. W. Moffitt, vice president of Mid-Continent Petroleum Corp. (Cosden & Co.) of Tulsa, will be one of the chief speakers at the annual convention of the Missouri Oil Men's association to be held at Excelsior Springs Thursday and Friday, May 21 and 22, according to an announcement of George S. Allee, secretary of the association.

Although the program has not been completed, others on the program will include Robert W. Otto, Missouri attorney general, and Asa W. Butler, state oil inspector. Mr. Otto will explain the anti-discrimination law of Missouri as they apply to the oil industry. Mr. Butler will lead a discussion on the proper handling of gasoline tax collections, reports and remittances.

FRENCH OIL MONOPOLY

In discussing the new French budget, Finance Minister Caillaux referred guardedly to the creation of some sort of French oil monopoly by the Government. During the informal talk which followed the reading of the declaration M. Caillaux said: "I would seek, without expropriation of any kind and without bureaucratic organization in any shape, participation profitable for the treasury in certain superprofits."

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INVESTIGATE Union County, Kentucky, three shallow producers, gravity 34, deeper sands. Rentals 25c. E. R. Morton, Sec'y Board of Directors, Morganfield National Bank, Morganfield, Ky.

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TWO—125 KW, GE, 480 or 2,300 V. 3 Ph. 60 Cy. Generators each direct connected to 3 cylinder, 16½x16 Rathbun Jones Gas Engine, vertical. Perfect condition, $2,000 each. H. R. Wilson Machinery Co., 417 Pine St., St. Louis, Mo.

CALIFORNIA Redwood Tanks. Special drive, 3-inch stock, 12 ft. diameter, 18 ft. high. Flat hoops, oil or storage. Up inside almost perfect. Dixie Silo & Cutter Co., 403 Presbyterian Bldg., Nashville, Tenn.

FOR SALE—One string standard cable drilling tools, National Supply Co. make, used on one hole only. Stored on Santa Fe and Frisco tracks, Fredonia, Kan. Longco Oil Corp., 710 Security Building, Minneapolis, Minn.

FOR SALE—No. 4 Clipper, steam tractor. Good condition. List of tools on application. Box 332, Bowling Green, Ky.

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1 6-inch Bulldozer pump.
Underreamers—1 6⅝ Swan complete.
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12½x8¼ Wilson underreaming dressing block.
1 6⅝ Rodgers grab.
1 6⅝ hearter corrigated friction socket.
1 6⅝ bottom hole packer, new.
1 6⅝ Fox trip casing spear.
1 5 3-16 Fox trip casing spear.
12½x8¼ Jack ring bushing.
Set 8¼x6⅝ Jack ring wedges.
12½ 2-lug Jack ring.
Set 12½x12½ wedges for same.
Set 12½x10 wedges for same.
Set 8¼x8¼ wedges for same.
8¼ steel die nipple.
Setting tool for underreamer.
6⅝ casing control head, new.
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Set 4-in. sq. driving clamps.
1 derrick 5x6½ rig iron and derrick.
All the above are practically new. Some are new and never used.
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WANTED—One 8-inch "Landis" pipe cutting and threading machine. Address Twin City Steel Mfg. Co., 2652 34th Avenue South, Minneapolis, Minn.

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EXECUTIVES, ENGINEERS, $3,000-$25,000, find our individual, confidential service effective in making new connections. Personally conducted by Mr. Jacob Penn, the eminent employment authority, known to leading business men throughout America. Not employment agency. Jacob Penn, Incorporated, 305 Broadway, New York City, New York.

WANTED—Refinery superintendent for small refinery. Must be thoroughly competent, able to manage economically and efficiently. Box A-741, The Oil and Gas Journal, Tulsa, Okla.

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GEOLOGIST — Successful career; wishes connection with good company. Box A-751, The Oil and Gas Journal, Tulsa, Okla.

CONTRACT FILTRATION expert engineer desires connection with company now operating or contemplating installing a contact filtration process. Box A-762, The Oil and Gas Journal, Tulsa, Okla.

WANTED—Position to build and operate gasoline plant, compression and absorption; 13 years experience, designing, constructing and operating. Address 308 North Fourth St., Henryetta, Okla.

ACCOUNTANT — Graduate leading account school; 10 years practical experience; 5 years public accounting. Specialized on oil company and income tax accounting. Successful record. Best of references. Box A-742, The Oil and Gas Journal, Tulsa, Okla.

WANTED—Position by refinery superintendent with reliable company. Have had 13 years experience in construction and operation in both light and heavy oils, worked from the bottom up. References furnished. Box A-760, The Oil and Gas Journal, Tulsa, Okla.

TWO RECENT GRADUATE geologists with special oil training desire connection with staff of medium sized company. Will consider foreign work. Box A-750, The Oil and Gas Journal, Tulsa, Okla.

CHEMIST—M.S., 33 desires position, utilizing training with reliable oil company. Twelve years' experience including some on oil products. Competent to take charge of laboratory. Box A-732, The Oil and Gas Journal, Tulsa, Okla.

PIPE LINER—University graduate, five years' practical experience in all departments desires connection with company that can offer him a future. Now employed. Box 703, Electra, Tex.

WANTED

WANTED—To get in touch with party or parties in Texas having gas for sale after gasoline is extracted or before. Can use 8 to 10 million cubic feet per day. Write Box 11, Fairbanks, La.

WANTED—From owners producing and close in royalties, L. E. Lindsay, Scott Thompson Bldg., Oklahoma City, Okla.

WANTED
Partner as vice president in a leasing company, who has a few hundred dollars. Good proposition, have several thousand acres on three different structures. Can lease more on three others. Write C. M. McConnell, Big Sandy, Mont.

WANTED

CORRESPONDENCE is invited from sales engineers with established offices in Chicago, Cleveland, St. Louis, Cincinnati, Kansas City, Pittsburgh and New Orleans, competent to handle a high grade line of rotary pumps. Give outline of organization lines handled and territory covered. William E. Quimby, Inc., 209 Parkhurst St., Newark, N. J.

WANTED—Oil production, from 100 barrels up, good gravity. I am no broker. P. O. Box 1239, Tulsa, Okla.

WANTED—Dogs to board. Best of care and feed. F. S. Thompson, Route 1, Tulsa, Okla., just east of McFarland golf links, and one-eighth mile south of Federal Drive.

WANTED—10 to 50 bbls. of production with opportunity for further development. Buyer, Box 1214, Wichita Falls, Tex.

WANTED—Natural Gas Plant in town of about 5,000. Might pipe gas to market. Box A-701, The Oil and Gas Journal, Tulsa, Okla.

WANTED — Producing royalties, Oklahoma and Kansas. Give full details. P. O. Box 502 Independence, Kans.

WANTED—Management drilling test wells in semi-proven field, Eastland County, Texas. Have had 15 years' experience as petroleum engineer, driller and lease man, 5 years oil and gas supervisor. Have 100 acres near production for well. Other large blocks with good prospect. L. G. Graves, Box 426, Eastland, Tex.

THE SOLAR OIL CO., 414 Patterson Bldg., Denver, Colo., desires established lease brokers to sell its oil leases and royalties, located on structure near drilling wells in Colorado and New Mexico.

WANTED — Information regarding zinc, lead, antimony, bauxite, gold and silver deposits, and oil structures in Oklahoma and Texas. Box A-463, The Oil and Gas Journal, Tulsa, Okla.

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FOR SALE—A well equipped machine shop, one-half block off Main Street, Blackwell, Okla.; in heart of Northern Oklahoma oil field. Reason for selling, retiring on account of health. Write O. R. Paine, Blackwell, Okla.

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(Continued from preceding page)

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500 LETTER HEADS, 500 envelopes; bond paper; $6.00. Write for prices on your stationery. Burnett Print Shop, Ashland, Ohio.

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FOR SALE—MAPS

ABSTRACT MAPS

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Gives lease and royalty owners, addresses, expiration date, oil development, Government bench marks, and complete information on restricted Indian lands. Made in township units. As map gets out of date it may be exchanged for new one showing all changes in ownership and development for one-tenth original cost. Covers all live areas in Oklahoma and Kansas.

Famous throughout the oil fields.

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MAP OF ANY COUNTY—In Oklahoma, scale ½ inch to mile, shows producing areas, drilling tests, depth of dry holes, etc; 50 cents each. Lindsay Map Co., Scott Thompson Bldg., Oklahoma City, Okla.

KANSAS FIELDS

(Continued from Page 40)

and abandoned at 3,315 feet, and No. 39 C SW NE Section 5-22-4, is completed. Sand was 2,469-80 feet, and the well is making 40 bbls. oil and 25 bbls. water. It is an old well drilled deeper. The Watchorn Oil & Gas Co. is drilling at 2,150 feet in No. 40 CWL SE NE Section 5-22-4.

Butler County

Dingee & Callahan are spudded and shut down in No. 1 NW cor. NW Section 26-23-4.

E. B. Merriam and others have a rig up for No. 1 Gish, NW cor. NW Section 4-23-6. The Vickers Petroleum Co. has a show in the chat topped at 2,491 feet and in to 2,513 feet in No. 1 Thomas, SE cor. NE NW Section 12-24-3.

Connell and others' No. 2 King, NW cor. SW Section 17-24-4, is dry and abandoned at 2,811 feet. The Mid-Kansas Oil Co. is drilling at 540 feet in No. 1 Henley, SW cor. SW Section 8-24-8. J. H. Leggett and others have spudded No. 1 Moffatt, SW cor. Lot 22, 18-25-8.

Dingee and others' No. 1 Fisher, SW cor. SE Section 31-26-6, is drilling at 300 feet. The Phillips Petroleum Co.'s No. 1, NE cor. NE Section 16-27-6, is drilling at 200 feet. Tom Miller and others' No. 1 NE cor. NW NE Section 33-26-8, is drilling at 200 feet. Miller & McGraw have spudded No. 1, SE cor. SW Section 6-27-4.

Trees Pool, Cowley County

The Trees Oil Co. is drilling at 575 feet in No. 2 Smith, NW cor. NE SE Section 10-31-3.

In the old Newton Field, Cassoby Oil Co.'s No. 6, NE cor. NW NW Section 14-30-4, has been completed. Sand was 2,784-814 feet, total depth 2,814 feet. The well is good for 25 bbls. after a shot of 30 quarts. Shawver and others have completed No. 3 Newton, NW cor. SW NE Section 15-30-4. Sand was 2,760-85 feet and the well is swabbing 20 bbls. after a 5-quart squib.

In the Oxford territory of Cowley County, the Carter Oil Co.'s No. 3 Waite, NE cor. NW SE Section 19-32-3, had sand at 2,595-625 feet and swabbed 271 bbls. at 15 hours. The Carter Oil Co.'s No. 4 Waite, SW cor. NW SE Section 19-32-3, had broken sand at 2,608-20 feet, show of oil at 2,612-14 feet, oil sand at 2,612-24 feet. It swabbed 112 bbls. in 6 hours. T. B. Slick and others have a rig on the ground for No. 4-A, SW cor. SE NE Section 19-32-3.

Graham Pool, Cowley County

The Marland Oil Co. has the rig timbers on the ground for No. 1, SE cor. SW NE Section 9-33-3. The Marland Oil Co.'s No. 1 Wright, NW cor. NW Section 10-33-3, is swabbing 25 bbls. from sand at 3,512-19 feet.

Rainbow Bend Pool

The Marland Oil Co.-Independent Oil & Gas Co.-Waite Phillips Co.'s No. 3, SE cor. SE Section 20-33-3, is completed for 10,000,000 gas and 3,310 bbls. initial production from sand 3,221-66 feet. The same companies' No. 3, NW cor. SE NE Section 20-33-3, made 1904 bbls. from sand at 3,196-227 feet, and their No. 2, NW cor. SW SW Section 21-33-3, made 3,624 bbls. naturally from sand at 3,216-54 feet.

Greenwood County

The Theta Oil Co.'s No. 3 Pixlee, SE cor. SW SE Section 8-22-10, is completed for 100 bbls. from sand 2,303-41 feet. Davis, Hazlett and others' No. 4, NE cor. SE SE Section 12-22-10, is drilling at 300 feet.

The Phillips Petroleum Co.'s No. 1, SE cor. SW Section 12-22-10, had sand at 2,185-92 feet, total depth 2,205 feet. It was shot with 100 quarts and is good for 25 bbls.

Pryor & Lockhart's No. 4, SE cor. NE SE Section 13-22-10, had sand at 2,100-30 feet, total depth 2,135 feet. It was shot with 60 quarts and is making 200 bbls. on the swab.

The Syndicate Oil Co.'s No. 2, CWL SE NE Section 13-22-10, had sand at 2,114-40 feet, total depth 2,143 feet. It was shot with 100 quarts and is good for 130 bbls.

The White Eagle Oil Co. is spudding No. 2 Kipfer, SE cor. NW NE Section 13-22-10. The Theta Oil Co. has a rig up for No. 11, NE cor. NW NE Section 17-22-10. The Sinclair Oil & Gas Co.'s No. 12 Browning, SE cor. SE SE Section 19-22-10, is estimated at 200 bbls. in sand at 2,354-410 feet. It will be shot. The Sinclair Oil & Gas Co.'s No. 10 Browning, NE cor. SE SE, is drilling at 900 feet. The Sinclair Oil & Gas Co. has a rig up for No. 19 Browning, SW cor. NE SE Section 19-22-10. The Sinclair Oil & Gas Co. has spudded No. 1, NW cor. SW SW Section 20-22-10. The Sinclair Oil & Gas Co. has a rig up for No. 18, NE cor. NW SW Section 20-22-10.

Roth & Faurot have a rig on the ground for No. 54, C north half SE Section 29-23-10. The York State Oil Co. has a rig up for No. 3-C, SE cor. NE NW Section 32-22-11.

The Arkansas Fuel Co. has a rig up for No. 9, SE cor. NW Section 1-24-9.

Winfield Pool, Cowley County

J. A. Hull is moving in a rig for a twin well, No. 1-A, NE cor. SE SW Section 24-32-4. J. A. Hull and others' No. 1, NE cor. NW NE Section 26-32-4, is drilling at 3,195 feet. It is an old well drilled deeper.

The Arkansas Fuel Co. has the rig and pipe in for No. 4, SW cor. NW Section 7-32-5. Shawver and others' No. 1, NW cor. SW Section 35-32-5, is dry and abandoned at 3,544 feet. The Lewis Oil Co. is building the rig for No. 1, NW cor. NW Section 1-33-4.

Tonkawa Deep Sand's First Year's Output Was 18,563,978 Pbls.

The deep sand in the Tonkawa Field in Noble and Kay Counties, Oklahoma, had produced 18,563,978 bbls. from May 1, 1924, to May 1, 1925, and of this the Comar Oil Co. produced 7,243,759 bbls., not including its interest in the Endicott lease operated by Thomas B. Slick, who opened up the deep sand area, late in April, 1924. The production by company and by lease was as follows:

Tonkawa Deep Sand Production by Company Up to May 1, 1925

Company, Lease—	Total Prod. Bbls.
Amerada Pet. Co., Goltry	1,390,140
Blackwell Oil & Gas, McDaniels	860,810
Comar Oil Co., Beverlin	2,005,667
Comar Oil Co., Blubaugh A	489,040
Comar Oil Co., Blubaugh C	45,592
Comar Oil Co., Carmichael	751,220
Comar Oil Co., E. Endicott	2,470,811
Comar Oil Co., L. Endicott	987,734
Comar Oil Co., Gaume	493,677
Gypsy Oil Co., Clark	3,214,607
McMan Oil Co., Suiter	61,015
Phillips Pet. Co., McDaniels	44,966
Pennok Oil Co., Endicott	1,628,240
Slick and Comar Oil Co., Endicott	1,881,821
The Texas Co., Davis	294,686
Wentz Oil Corp., McKee	2,926,257
Total	18,563,978

There were 101 wells producing at the close of April and a few others on the inside which were idle, but altogether it may be said that the production came from 1,040 acres which would show a yield in the first year of about 17,850 bbls. to the acre. The field on May 1 was producing 41,917 bbls. or at the rate of over 15,000,000 bbls. per year, so that it is safe to say that the production of the first 12 months will not be the best record of 12 months' production the deep sand will show, as it did not begin to yield largely until about the first of September. The 12 months production ending October 1, 1925, will show a great increase over the production for the first year of the field's existence, and may be the banner 12 months' yield.

MICHIGAN GASOLINE TAX

LANSING, Mich., May 16.—Michigan's 2-cent gasoline tax is payable to the State by the gasoline dealers on or before the twentieth of each month, according to an opinion issued by Andrew B. Daugherty, attorney general. The State will institute proceedings unless the tax is settled promptly. The law fixes a maximum of $500 fine and 60 days imprisonment for false statements or returns on this tax or refusal or neglect to make returns. Officials declare withholding of tax is depriving the State of $250,000 monthly.

This is the Type PB 20-Foot Power. Patented September, 1913, June, 1924

PATENTED FEATURES

All Reid Band Wheel Powers, both Type PB and Type PW have a number of exclusive patented features. The dust ledges on the eccentrics which serve to keep grit and dirt out of the lubricating oil and from between the bearing surfaces is one patented feature. The patented angle drivers is another one. It is these patented features, exclusively Reid, which insure a long life of service and satisfaction to every Reid Power.

Let us tell you more about these powers
Write for Bulletin No. 29

JOSEPH REID GAS ENGINE COMPANY, Oil City, Pennsylvania, U. S. A.

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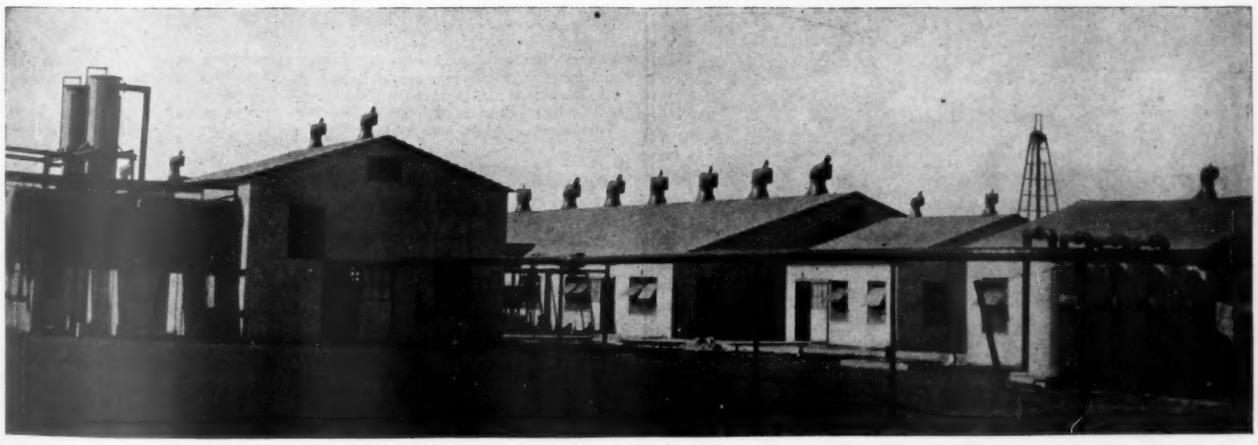
BRANCH SHOP, TULSA, OKLA.



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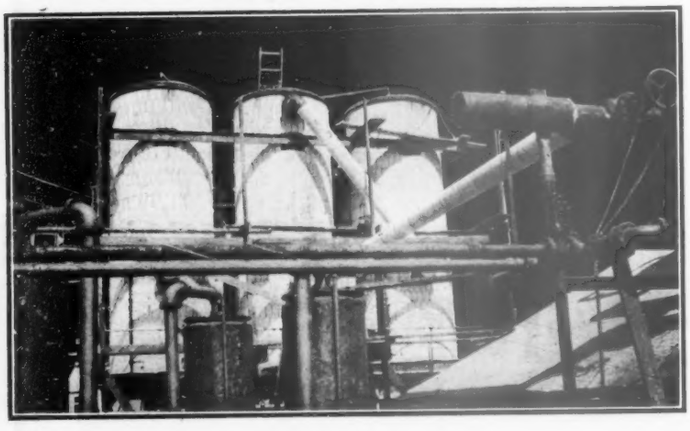

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JAMES WARNS NORTH CAROLINA DEALERS AGAINST TRADE ERRORS

By H. G. James
*Secretary American Oil Men's Association**

The oil industry cannot continue to carry on half prosperous and half bankrupt. Nor can we get far away for long from the immutable and eternal law of supply and demand. We must conform to the laws of business and be governed by industrial statistics, or suffer the consequences. Likewise, it is highly essential to everyone of us that we learn to recognize the fact that in oil as in every other line of business fat and lean periods succeed each other, and he who fails to husband his profits when profits are possible, will not be able to carry over periods of depression. It is essential that profits sometimes be large to strike an economic balance with periods of excessive sluggishness in trade. Misuse of profits is profligacy.

I know of no other business in which demand is made by those engaged therein for lower prices than consistent with the cost of producing and manufacturing. Last year there was a demand for lower prices by members of the oil industry who did not understand underlying conditions. Prices were forced down. You know the results if you are the owner of stocks in various oil companies which were compelled to discontinue paying dividends. Look at the financial statements for last year for reply to the claims made.

As a result of the reckless statements that issued from a section of the oil industry itself Governor McMaster telegraphed the President of the United States lodging four distinct charges against the oil industry:

(1) Standard had accumulated stocks of crude oil last half of 1923.

(2) Had a "corner" on the crude market in January, 1924.

(3) Increased gasoline prices as result of "corner."

(4) Excessive profit taking in sale of gasoline.

The President ordered an investigation by the Federal Trade Commission. Recently the commission made its report. It found no evidence that the Standard had accumulated crude stocks or had a "corner" on crude or that it made excessive profits; in fact, it found less crude oil increase than in former years.

The commission found that 59 companies (including 17 Standard Oil Cos.) earned an average profit for the year 1922 of 10.3 per cent. These companies reported the first six months of 1923 profits of 11.6 per cent, but during the last half of 1923, or the period complained of by Governor McMaster, profits dropped to 1.9 per cent, or an average for the year 1923 of 6.8 per cent.

The commission further reported that it found no evidence of a conspiracy toward combination by Standard Oil Cos.

Danger of Divisions

The oil industry has been investigated again and again and not once has it been found guilty of public misconduct. But think of the prices we have paid for unfortunate agitation that started within our own ranks.

We have been presenting ourselves to the public as a divided industry, one division telling another division, upon which it is absolutely dependent, how it shall conduct its affairs, what prices it shall charge; when to advance and when to cut. Every branch of the oil industry is absolutely dependent upon every other branch. We must stand or go down together. And the sooner we get this fact fixed in our minds the better it will be for us.

I am not speaking for any particular division of the industry. I plead for the business as a whole, for I am a firm believer that the industry is more important than the individual and if the industry prosper all prosper, and vice versa.

We make our troubles. We brag of profits we do not make, and we attract competitors. We attempt to give secret prices and rebates and special consideration, and we have a flood of marketing irregularities that engulf us. We charge each other with marketing offenses without evidence and reap a whirlwind of denunciation, regulation and taxation.

Listen: I am reading from the official statement of the Commissioner of Markets of the State of Wisconsin: "Secret discriminations in the prices charged for gasoline are an outstanding evil in the oil industry. These secret discriminations appear in several forms, such as the sale of gasoline to commercial customers at service stations at 2 cents below the price posted there and paid by the public at large, and the granting of special concessions in the form of rebates and discounts allowed only to favored customers."

I shall not assume the responsibility of saying whether these statements were true or not. But according to Commissioner Nordman "with the object of checking these discriminations, an order requiring full publicity with regard to prices of gasoline," became effective and the law in Wisconsin May 4, and now every jobber, retailer, or other dealer selling gasoline in that State must keep a public record of the prices charged by him for each kind or kinds of gasoline to every class or classes of buyers. Whenever there is a change in price, it shall be stated in this record, which shall at all times be open for inspection of the public.

Peril of Political Action

Your association can be a mighty influence in teaching respect for and conformity to established ethics and marketing principles in the oil industry, which will to a very large extent, obviate governmental interference. But I warn you if we do not attend to these things ourselves, this is evidence the Government will do it for us. This sort of thing will spread if we ourselves do not check it.

The recent legislature of South Dakota passed a bill legalizing the State's participation in the oil business. A similar bill was introduced in the Nebraska legislature. There was a veritable avalanche of bills adverse to the oil industry introduced in the various legislatures the past winter, largely the result of what we ourselves had said and done. We reap what we sow.

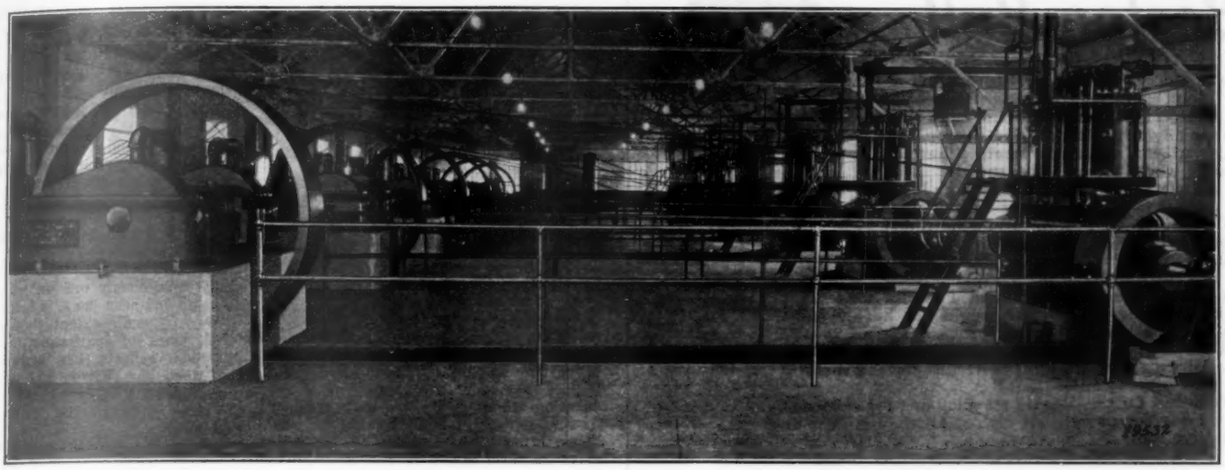
But I hasten to say we are making progress and likewise we are making friends. Refiners in the Mid-Continent Field for the first time are predicating their runs to stills somewhat according to statistical information. Nothing has contributed to the improved condition existing in the oil industry today, as compared with the last three or four years, so much as the action of the Mid-Continent refiners in curtailing their output to conform with demand. When the refiners base all their operations on this standard there will no longer be an unwarranted disparity between tank car and tank wagon prices and there will be no more serious periods of depression. Then the whole question will be up to the producer and not the refiner as in the past. When the refiner refuses to run crude to stills, when there is no market for gasoline, crude oil will back up and this will stop drilling and thus automatically the collapse of markets, as we have witnessed for the past three years, and the evil effects, will be eliminated. In the first place, the producer will not drill unless he has been prompted to by the bidding up of crude prices by exorbitant premiums, and it holds equally true the pipe line companies will not advance the price of crude out of conformity to supply and demand unless forced to by premiums.

Should Not Destroy Profit

Apparently, the refiner has finally come to a realization of the fact that the refinery capacity of the United States is so great that no matter what the de-

*Before North Carolina gasoline and tire dealers, Charlotte, N. C., May 12.

At Roeser & Pendleton Plant No. 2



In building their Plant No. 2 Roeser and Pendleton again chose I-R Gasoline Extraction Compressors and Rathbun Gas Engines. Here are installed six Type XRB Compressors driven by Rathbun three-cylinder, four-cycle, gas engines and a Type XPV Expander.

In Roeser & Pendleton Plant No. 1 are nine similar Type XRB Compressors and Engines and a type XPV Expander.

Gas Expanders *Expanders* *Rathbun Gas Engines*

INGERSOLL-RAND COMPANY, 11 BROADWAY, NEW YORK, N. Y.
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Cast Steel
Body-Cap-Gland

TEMPERATURE 750° to 900°

Pressure up to 300 lbs.

Use this valve in the open position as long as you like. It will close at any time.

It is the best valve for use in connection with cracking-stills and other high-temperature refinery service, because it has advantages not possessed by any other valve.

1. Note the full round machine-finished opening. No obstructions to collect carbon.
2. The seat is protected while the valve is open. It is in good condition to hold pressure when closed.
3. This valve is constructed with the patented Homestead cam, which assures a tight valve when closed.
4. Also notice cooling fins and air space to protect packing. Several installations of them working successfully for over a year.

Decidedly worth a trial on your high-temperature lines.

A catalog will be sent showing many valves of use at the refinery.

Products . . . . . .

HOMESTEAD VALVE MANUFACTURING COMPANY, HOMESTEAD, PENNA.

HOMESTEAD

Boston Bull

HARRY G. NYE

There is a dog they call the Boston Bull although I don't know why, because the bull you hear in Boston is not any different from what you hear in any other town. The Boston Bull is a nice lap dog unless he meets a burglar, and then he works from the other side.

I had a little Boston Bull once, and he loved me like a brother—but one night I came home in an old suit of shop clothes and he didn't know me. When he got through neither did my wife.

That Boston Bull gave me a great idea—as well as a lot of other things. I determined I would make Nye tools like that dog. Dies that would not hurt a baby, but would eat a burglar alive.

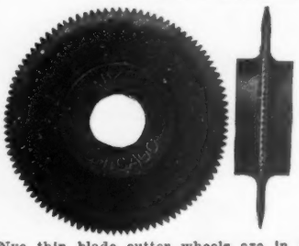
Nye Dies and Thin Blade Cutter Wheels will tackle any pipe job on earth, and do it better, easier and smoother than any other similar tool.

Nye Dies and Cutter Wheels are a lap dog for accuracy, and a bull dog for power, but last of all they outlast all other similar tools.

HARRY G. NYE

THE NYE TOOL & MACHINE WORKS

108-128 N. Jefferson Street, Chicago, Illinois



Nye thin blade cutter wheels are in a class by themselves. They are a National institution just like Mr. Hughes' whiskers, Ziegfeld's Follies or Spearmint Gum. Made to fit all standard makes of pipe cutters, and guaranteed against breakage in use.

Nye Toledo type pipe threaders, made in both the plain and ratchet type. Satisfaction absolutely guaranteed. Sent on free trial to any dealer.

No. 1 Nye Toledo Threader complete .....$9.60 net
West of Rocky Mountains.....$10.20

No. 1-A Nye Toledo Pipe Threader complete .....$12.00 net
West of Rocky Mountains.....$12.75

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STOP falling firebrick and bulging walls. For still and boiler furnace linings use Plibrico—the lining without a single joint. It's plastic. Anyone around the refinery can pound it in to give a lining that resists temperatures to 3100 degrees F., and that far outlasts firebrick. Special shapes, like doghouses, are easily built. Big refineries use it.

Ask for a free copy of "Refractories and Furnace Design." It tells the whole story. Just write your name and address in the margin of the ad.

Warehouses, stocks and service engineers in 85 cities—see phone books or write us. Plibrico is packed in cylindrical steel wooden-ended containers, as shown above, by a patented method.

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Reg. U. S. Pat. Off.

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mand may be (within the bounds of reason) it is possible for the industry to meet that demand simultaneously with the demand. Therefore, we make bold to assert the refining capacity of this country is sufficient and there is enough crude on hand that every demand of the peak of the coming summer could be met and still 100,000,000 gallons of gasoline a month be placed in reserve storage.

Under these circumstances it would seem like folly to make gasoline in advance of demand. To all appearances it took three years to learn this, but the refiners of the Mid-Continent Field will be amply repaid, in our judgment, this summer for their conservatism. This means the jobber will need to give closer attention to his buying than he has been compelled to do the past three years.

If the established price of our produce guarantees us a profit, would we not be foolish to destroy that profit. There have been brief periods when our margin of profit was apparently too wide. I also realize that there are periods of longer duration when profits are not sufficient to remove worry. Shall we not be wise if we lay by when profits are good to carry us over when profits are short? All of the big successful independent oil companies became strong through strict observance of sound business principles.

COLOMBIA'S OUTPUT MAY EXCEED PERU'S

By Victor Lauriston

CHATHAM, Ont., May 16.—Colombian oil production will eventually exceed that of Peru by a wide margin, according to figures supplied by A. M. McQueen, vice president of the International Petroleum Co., of Toronto, on his return from a two months' trip to South America.

The potential production of the Tropical Oil Co. in Columbia is already 22,000 bbls., per day, which represents an increase of over 100 per cent since the first of the year. Drilling operations thus far have been confined mostly to a single structure, and there are several others where the geology is considered quite as favorable. The indication is, therefore, that when the pipe line of the Andian National Corp., Ltd., is completed next year, there will be ample oil production to take care of the 40,00-bbl. daily capacity of the line. Mr. McQueen states that the laying of pipe was already well advanced, and that about 40 miles had already been laid.

If the Colombian production is larger eventually than that of Peru, it will cost more to carry it to the seaboard. Whereas the Peruvian fields are practically on the coast, the Colombian field is over 350 miles inland, and the pipe line charges will be considerably higher than the transportation charges from the producing field in Peru to tidewater. It is extremely encouraging, however, that a prolific production of Columbian oil is a virtual certainty inasmuch as the Tropical Oil Co., the operating company, is owned by the International Petroleum Co.

Production on the Infantas structure, which is the only one on which drilling has thus far been done, is being marketed to only a small extent thus far, owing to the lack of marketing facilities. A 3,000-bbl. refinery has been erected on the Magdalena River, and connected by pipe lines with the producing wells about 20 miles distant, the products being sold locally.

The rapid construction of the pipe line shows the evident faith of the Standard Oil interests in the productivity of the field, justifying the expenditure of $15,000,000 on the pipe line, which will be completed in about 18 months.

About 35 producing wells have been completed. This development work has been conducted along lines designed to prove up the most acreage, and no dry holes have been drilled to date. Estimates of the amount of proven land on the Infantas structure place the number of proven locations for well drilling at 700, about 1 to 10 acres. It has been shown that well pressure is stronger as deeper drilling is accomplished. About eight producing sands have been encountered on the structure with an aggregate thickness of more than 200 feet in drilling from 1,200 to 2,300 feet. The deepest well was drilled to 2,310 feet and showed a pressure of 300 pounds and a flow of better than 3,000 bbls. a day through a 4-inch flow line to storage tanks about a mile away.

Peruvian production is proceeding at the rate of about 17,000 bbls. a day. Operations were seriously interrupted by the very heavy rainfall, which was practically continuous for six or seven weeks. Some damage was done to property by this deluge, and it will take some little time to regain maximum production.

CALIFORNIA PETROLEUM REFINERY STATISTICS FOR MARCH, 1925

Compiled by U. S. Bureau of Mines

There were 42 refineries reporting to the United States Bureau of Mines as operating during the month of March, with an aggregate daily indicated capacity of 600,220 bbls. of crude oil. These plants were operating at 74.9 per cent of their capacity, running to stills a daily average of 449,542 bbls. of crude oil.

Gasoline — The production of gasoline during the month of March amounted to 118,002,212 gallons, a daily average of 3,806,523 gallons. This is an increase of 1,585,769 gallons over February output. Compared to the production in March, 1924, an increase of 5,767,389 gallons is noted. Stocks of gasoline decreased 12,235,770 gallons and on March 31 amounted to 329,308,084 gallons. Of the gasoline produced 102,299,111 gallons were from straight run, 2,394,884 gallons from cracking and 13,308,217 gallons from natural-gas gasoline. Production of engine distillate increased 8,175,116 gallons, there being 9,926,585 gallons produced. Stocks increased 940,925 gallons and at the close of the month aggregated 7,994,383 gallons.

Kerosene—The production of kerosene amounted to 23,629,991 gallons, which is an increase of 1,299,845 gallons over February output. Stocks at the end of March were 57,216,571 gallons an increase of 1,602,408 gallons over February stocks.

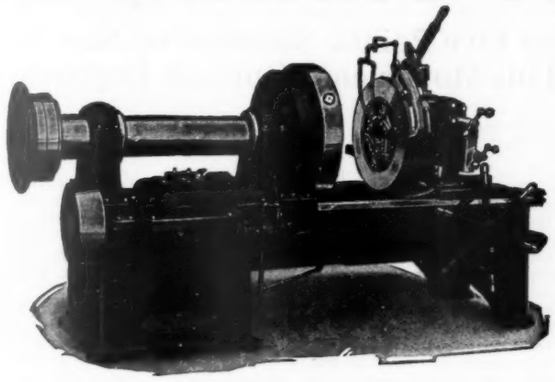
Gas Oil, Fuel Oils and Residuum—The production of these oils amounted to 400,484,228 gallons, an increase of 67,840,780 gallons over February output. Stocks on March 31, were 845,766,038 gallons, an increase of 2,533,430 gallons over February stocks.

Lubricants — The output of lubricants during March was 10,006,845 gallons, an increase of 2,204,111 gallons over February production. Stocks increased 1,406,483 gallons during March and at the close of the month amounted to 23,438,610 gallons.

Commodity—	Oils Run to Stills	Stocks End of Month
Crude, bbls.	13,936,793	11,039,490
Unfin. oils rerun, bbls.	681,251	2,940,964
Natural - gas gasoline run to stills or blended at refinery, bbls.	335,470	.....
Tops (from below)	.....	5,833,740
Total in bbls. of 42 gals.	14,952,514	19,764,194

Commodity—	Refinery Output	Stocks End of Month
Gasoline, gals.	118,002,212	329,308,084
Engine distillate, gals.	9,926,585	7,994,383
Kerosene, gals.	23,629,991	57,216,571
Gas oils, fuel oils and residuum, gals.	400,484,228	845,766,038
Lubricants, gals.	10,006,845	23,438,610
Wax, lbs.	.....	15,670
Asphalt, tons	31,395	17,394
All other finish'd products, gals.	6,185,196	356,541
Tops, gals.	39,624,343	245,017,308
Unfin. oils produced (other than tops)	6,485,834	.....
Refinery losses, bbls.	149,838	.....

Gasoline production in gallons from straight run, 102,299,111; from cracking, 2,394,884; from natural-gas gasoline, 13,308,217.



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The individual motor drive is desirable for all machine tools. Bignall & Keeler pipe threading machines ar e well adapted for constant speed motors, as all speed changes are obtained through steel gears running in oil. The compact gear-box is a part of the bed of the machine.

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BIGNALL & KEELER MACHINE WORKS
of the N. O. Nelson Mfg. Co.
EDWARDSVILLE, ILLINOIS

Look for this Seal on the Chain —

It certifies the chain has been proof-tested and guarantees safety to the operator.

Then note the Double-Ended Reversible Jaws, providing the service of "two tools at the price of one."

All parts interchangeable. Eight sizes for ⅛ to 18" pipe.

Literature?

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"The Wrench People"

New York **BUFFALO** **Chicago**
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WILLIAMS
SUPERIOR DROP-FORGED TOOLS

IMPROVED "VULCAN" CHAIN PIPE WRENCH

Oil Securities Were Generally Higher

Humble Oil & Refining Advances Five Points. Standard of New Jersey Active at Best Figures on This Movement. Outlook Improving

N. O. Fanning
Room 543, No. 30 Church St., New York

NEW YORK, May 18.—Oil stocks were generally higher during the past week. Humble Oil & Refining Co. was featured with a new advance of about five points for the week. The stock of Standard Oil Co. of New Jersey which controls the Humble Co. was active at the best figures on this movement. Sentiment in the financial district regarding the oil outlook is gradually improving.

Marland Resumes Dividends

Resumption of dividend payments by the Marland Oil Co. was one of the outstanding developments during the week, the company declaring a dividend of 75 cents per share, payable June 30 to stockholders of record June 20. This is the first declared since payments were discontinued in September, 1923, at which time a quarterly dividend of $1 was declared.

Standard of Jersey

The annual report of the Standard Oil Co. of New Jersey for 1924 shows surplus of $81,016,570 after expenses, depreciation, Federal taxes, etc., equivalent after preferred dividends to $3.30 per share (par $25) earned on $507,301,775 outstanding common stock. This compares with $56,295,282, or $2.10 per share on $502,099,200 common stock outstanding in 1923.

The consolidated income account of the Standard Oil Co. of New Jersey and affiliated companies for 1924 compares as follows:

	1924	1923
*Gross income	$409,995,806	$367,334,410
Costs & expenses	377,642,143	340,306,941
Balance	$ 32,353,663	$ 27,027,469
Other income	9,785,429	8,490,246
Total income	$ 42,139,092	$ 35,517,715
Gen. exp., taxes & depreciation	21,872,140	20,010,733
Balance	$ 20,266,952	$ 15,506,982
Proportion of earn. affil. cos. after Federal taxes	60,749,618	40,788,300
Net surplus	$ 81,016,570	$ 56,295,282
Freferred dividends	13,988,103	13,998,103
Surplus	$ 67,018,467	$ 42,297,179

*Gross income from operations with all departmental transactions eliminated.

The consolidated balance sheet of the Standard Oil Co. of New Jersey and affiliated companies as of December 31, 1924, compares as follows:

Assets	1924	1923
Total val. plant, equip., less depreciation	$ 474,960,207	$ 464,765,468
Investments	172,737,096	158,356,076
Inventories	239,102,341	245,908,139
Acc. receivable	347,011,656	267,888,285
Cash	11,128,756	11,086,985
Total	$1,244,940,056	$1,148,004,953
Liabilities.		
Preferred stock	$ 199,972,900	$ 199,972,900
Common stock	507,301,775	502,099,200
Accts. payable	245,936,938	204,855,636
Tax reserve	8,850,459	5,731,155
Marine ins. reserve	4,617,018	3,921,993
Reserve for annuities	3,751,575	3,356,655
Surplus	274,509,390	228,067,414
Total	$1,244,940,055	$1,148,004,953

Chairman Bedford's Statement

A. C. Bedford, chairman of the board of Standard Oil Co. of New Jersey, in his annual report says:

"In 1924, the company's sales of petroleum products exceeded in volume those of any previous year. The production of crude oil by the company's subsidiaries was slightly less than in 1923, but as this shrinkage occurred in the production of heavy crudes, the value of the gross production was greater than in that year.

"The results of the company's natural gas business and those of its subsidiaries engaged in collateral activities, were in 1924, as in previous years, more satisfactory than the results arising from the oil business itself. The earnings of the Standard Oil Co. of New Jersey, from its own business of refining, shipping and marketing, including interest on investments, were $20,266,952, equivalent to 4.5 per cent on its net assets. The earnings of its subsidiaries were $60,749,617, or a return of 11.34 per cent on the investment in those subsidiaries. The combined earnings of the Standard Oil Co. of New Jersey and its subsidiaries, after deductions for depreciation and income tax, were $81,016,570, equivalent to 8.22 per cent on the net assets of $985,535,641.

"Excessive competition, arising from overproduction of crude, and the resultant overaccumulation of finished products, which has caused many of those products to be forced on the market at prices below their value, has seriously militated against the prosperity of the petroleum industry in the past four years. This general situation is well illustrated by the results of operations of this company since 1921. In the four intervening years, Standard Oil Co. of New Jersey earned $56,165,673, including interest from its manufacturing, marketing and shipping activities, or a return of 3.18 per cent on its net assets. The combined earnings of the Standard Oil Co. of New Jersey and its subsidiaries for this period were $217,400,219, or 5.85 per cent on their aggregate net assets.

"It is manifest that the profits of this company in 1924, as in the three years preceding, failed to reach the level of what would be a commensurate return upon its investment in a business subject to the vicissitudes characteristic of the petroleum industry. Though unsatisfactory, the earnings exceeded those for 1923, as that year in turn showed improvement over 1922. The improvements financed through the reinvestment of a substantial part of the company's surplus earnings were reflected in these gains made, notwithstanding the depressing effect of a continuation of overproduction of crude and finished products. Better results should attend the company's operations when the industry is relieved of this problem.

"At the segregation of the properties in 1911, Standard Oil of New Jersey had 6,078 stockholders, and there are now 26,829 common stockholders and 39,143 preferred stockholders, or a total of 65,972. On the termination of our employes' stock acquisition plan, there will be added approximately 15,000 holders of common stock."

NEW YORK STOCK EXCHANGE—LIST OF ACTIVE STOCKS

Stocks—	Par	§Dividends Rate	Closing Quot. May 18	May 11	1925 High	1925 Low	1924 High	1924 Low	1923 High	1923 Low
American Republics	..	..	*40	*40½	66¼	48	48	25	..	..
Associated Oil	25	6	39⅞	36	39½	32	34⅝	27⅝	29¼	29½
Atlantic Ref. com.	100	..	106	105	117½	95¼	140½	78½	160	98¾
Barnsdall "A"	25	..	22⅛	22¼	28¾	21	22¼	14	37	9⅞
California Pet. com.	25	7	30	29½	32⅞	23⅞	29	19⅞	28½	17½
General Am. Tank	..	†3	*46½	*47½	58½	45	53	35½	71⅝	40
General Petroleum	25	8	52¼	51½	57½	42	45	38⅝	..	..
Houston Oil	100	..	65⅞	62	85	60⅝	82½	61	78	40¾
Independent Oil & Gas	..	†1	29	26⅝	33½	13½	16¼	5⅝	11¼	3⅝
Indian Refining	10	..	7⅜	8	10⅝	5½	7	3⅝	8½	4
Louisiana Oil	50	..	19	17⅛	23¾	14⅝	..	..	..	..
Maracaibo	..	..	26½	*27	35½	25½	37½	25⅜	28¼	16
Marland	..	†3	42	40⅜	46¼	32⅝	42	29	59⅝	18½
Mexican Seaboard	..	..	16¼	16½	22¾	11¼	26⅜	14⅛	19¾	5¾
Mid-Continent Pet.	..	..	29¼	28¼	35⅝	26⅛	40¼	22⅝	62½	23¾
National Supply	50	6	*62	62¾	71	61¾	72½	54	68	54
Pacific Oil	50	†2	59	56½	65¼	52½	68¼	45	52½	31½
Pan American com.	20	12	78	76½	82¾	65	65	44½	93½	53
Phillips Petroleum	..	†2	41⅝	40½	46⅜	36¼	42¼	28½	69⅝	19⅜
Producers & Refiners	50	..	25	24	32⅝	22	43½	29¾	58¼	17½
Pure Oil com.	..	6	27⅞	28	33¾	25½	30¼	20	32	16¼
Royal Dutch, N. Y. sh.	13.40	4.42½	50⅜	49⅝	57⅝	48¾	59½	40⅜	55½	40½
Shell Transport	10	3.30	*39½	*40½	45⅝	41	42	33	41¼	29½
Shell Union com.	..	†1	24⅜	24½	28⅝	22½	22½	15⅝	19¼	12⅜
Simms Petroleum	10	..	23⅞	23	26⅝	19½	24	10⅜	16⅜	6½
Sinclair Consolidated com.	..	..	19½	19	24⅞	17	27½	15	39⅜	16
Skelly Oil	25	..	26⅝	26⅛	30½	21⅜	29	17½	35	12⅛
Standard of California	25	8	58½	58½	67¼	56⅝	68½	55½	64½	47½
Standard of N. J. com.	25	4	44⅛	43¼	47⅞	38⅝	42¼	33	44¼	30⅞
Superior Oil	6	..	4⅝	4⅝	6½	4	8⅛	2⅝	6⅜	2
The Texas Co.	25	12	44⅞	44⅝	49	42⅜	45⅝	37¾	52⅞	34⅝
Texas Pacific Coal & Oil	10	..	15½	14⅜	23⅜	11½	15¼	8¼	24⅜	5½
Tide Water Oil	100	4	139¼	138⅝	152	122	151	116¼	144	94
Transcontinental	..	..	5⅝	5½	5½	3⅞	6¼	3⅜	14½	1¼
Union Oil of California	25	7.2	37⅝	37	43⅜	36¼	39	35⅛	..	..
Union Tank com.	100	5	*123	*124	127⅜	118½	132⅞	94	114	106
White Eagle Oil & Ref.	..	2¼	27	27	31⅜	25⅝	29⅝	23⅛	30⅝	20½
Standard Oil Stocks										
Anglo-American Oil	£1	25	25¼	25⅜	26¼	18	18⅜	14⅜	19¾	13½
Borne Scrymser	100	12	*200	*200	240	212	264	150	153	110
Buckeye Pipe Line	50	14	*61	59½	72	59¼	85½	51	94	67½
Chesebrough Mfg. Co.	25	14	*56	*56	70	48¼	52½	29¼	340	205
Crescent Pipe Line	25	..	*10½	10½	15⅝	10½	20	11¼	25	15
Cumberland Pipe Line	100	12	147	145½	150	128	148	109	117	80
Eureka Pipe Line	100	8	*77	*77	96	80	105	74	117¼	87
Galena Signal com.	100	5	*55	55	68½	55	69¾	52½	78	55
Humble Oil & Refining	25	4.8	58⅞	50¼	59⅜	42½	43⅜	36	41	28¼
Illinois Pipe Line	100	12	143¾	144½	154½	127	161	123	171	115
Imperial Oil, Ltd.	..	†2	30½	30	34⅛	27⅝	119	99	123	92
Indiana Pipe Line	50	8	*71	72	84	70	100	66	103	81
International Pet. Co.	100	x50	25⅝	23⅞	28⅝	22¼	24⅜	16⅞	24¾	13¼
Magnolia Petroleum Co.	100	4.5	142	141	159	131½	162	124	166	123
National Transit	12.50	16	22	*22	25½	22¼	25⅞	20⅝	29	19½
New York Transit	100	3	62	60	79	64¼	97	54½	138	70
Northern Pipe Line	100	6	*83	*83	88	80	107½	72	111	96
Ohio Oil Co.	25	8	64¼	66	75¼	60	79½	53	85⅝	48¾
Pen.-Mex. Fuel	25	..	*34	36	44	35⅝	45⅝	27	45	10½
Prairie Oil & Gas	25	†2	55½	54	65½	50¼	269	193	272	152
Prairie Pipe Line	100	8	119	121	126	106	111	100	117	93
Solar Refining Co.	100	15	224	*212	259	200	240	170	212	161
South Penn Oil	100	..	167	167	197	139	176	117	196	100
South West Pa. Line	100	6	*67	*67	84	65	89	68	89	66
Southern Pipe Line	100	4	*81½	*81½	103	81½	100	80½	116	87
Standard of Indiana	25	10	65⅝	64¼	70	59½	69⅜	54¼	69¾	48½
Standard of Kansas	25	..	33½	33½	46	31	50½	32½	56¼	36½
Standard of Kentucky	25	16	119½	118⅞	124½	114¾	121⅛	101	109½	76
Standard of Nebraska	100	20	*243	245	270	244	262	198	280	186
Standard of New York	25	5.6	43⅞	43½	48⅝	41¼	48	37⅝	49¾	35½
Standard of Ohio com.	100	10	360	349	369	338	337½	277	320	270
Swan & Finch com.	25	..	17	*17	27	16	28	20	..	..
Vacuum Oil	25	†3.75	89½	87⅝	96¼	80½	83¼	66½	55½	40
Washington Oil	10	..	*30	30½	30	29	25	28	28	20¼
Miscellaneous Stocks										
Continental	10	10	25	25	31¼	21⅞	..	..	..	..
Gulf Oil Corp. of Pa.	25	6	66¾	64½	71	63½	67⅜	56	68¼	45¾

*Bid, no sales. †In dollars. ‡Six per cent cash and 6 per cent scrip annually. §The figures in this column are kept up to date as far as possible, but are not guaranteed. xCents per share.

The Oil and Gas Journal's weekly average price of 30 representative petroleum stocks listed on the New York Stocks Exchange was as follows:

May 18	55.32	Apr. 13	53.49	Mar. 9		57.73
May 11	54.36	Apr. 6	54.63	Mar. 2		59.56
May 4	54.33	Mar. 30	51.28	Feb. 23		58.02
Apr. 27	52.70	Mar. 23	52.90	Feb. 16		55.96
Apr. 20	52.96	Mar. 16	54.14	Feb. 9		58.39

The consolidated income account for 1924 compares with 1923 as follows:

	1924	1923
Gross income		$34,502,549
Costs & expenses		28,695,549
Operating profit	$9,687,246	$6,502,987
Inventory adjustment		3,000,000
Interest	672,934	459,205
Depre. & depletion	7,589,347	6,827,402
Net income	$1,424,965	*$3,783,524
Preferred dividends	479,262	489,111
Common dividends		2,441,925
Surplus	$ 945,703	$6,714,560

*Loss. §Deficit.

For the quarter ended March 31, 1925, net income of the Mid-Continent Petroleum Corp. was $3,694,890 after interest abandoned wells, etc., but before depreciation and depletion, comparing with $3,942,875 in the first quarter of 1924.

Shell Union Oil Corp.

The Shell Union Oil Corp. and subsidiaries for the quarter ended March 31,1925, shows net profit of $4,505,205, after expenses, depreciation, depletion, etc., but before Federal taxes, equivalent after preferred dividends to 42 cents per share earned on 10,000,000 no par value common shares, compared with $5,362,096, or 50 cents per share, in the first quarter of 1924.

The consolidated income account for the quarter ended March 31, 1924, compares as follows:

	1925	1924
Gross income	$10,146,650	$11,068,301
Depre., depl., etc.	5,641,445	5,697,542
Net profit*	$ 4,505,205	$ 5,362,096
Preferred dividends	263,481	300,000
Common dividends	3,500,000	2,500,000
Surplus	$ 741,724	$ 2,562,096
P. & L. Surplus	$20,162,080	$14,567,643

*Before Federal taxes.

Independent Oil & Gas Co.

April earnings of the Independent Oil & Gas Co. before depletion were $385,000, and after deducting depreciation, depletion and other reserves, $276,000.

Present crude production is over 9,000 bbls. daily, against 6,980 bbls. daily during the first quarter. The company is drilling either directly or jointly about 60 wells, practically all on proven locations.

Simms Petroleum Co.

Simms Petroleum Co. has issued the following statement on operations and earnings, covering the first quarter of 1925, compared with the corresponding period of 1924:

	1925	1924
Net production (bbls.)	1,255,465	1,603,577

Daily average	13,950	12,083
Production revenue	$1,957,828	$1,654,896
Trans. & stor. rev.	565,567	290,144
Gross op. revenue	$2,523,394	$1,945,040
Operating expenses	585,003	487,033
Gross profit	$1,938,391	$1,457,107
Other income	74,932	9,456
Total	$2,013,323	$1,466,564
Interest, rent., etc.	51,493	65,673
Provision for fed. tax	100,000	
Development expense	409,393	186.001
Depre., deple., abnd.	427,497	422,703
Net income	$1,024,941	$ 792,187

Net income for the first quarter of 1925 was equivalent to $1.50 per share on the outstanding 684,961 shares. This compares with $1.19 per share or 667,272 shares in the first quarter of 1924.

Simms Petroleum Co. declared a dividend of 50 cents per share, payable on July 1 to stockholders of record June 15.

E. T. Moore, president of the company, states that the only liabilities of Simms Petroleum Co. on March 31, 1925, were current payables amounting to approximately $800,000 and $489,000 of serial car trust certificates.

Caddo Central Oil & Refining Co.

The Caddo Central Oil & Refining Co. reports for the year ended December 31, 1924, net loss of $44,201, after interest, taxes, depreciation, depletion, etc., compared with net loss of $1,022,172 in 1923.

The consolidated income account for 1924 compares with 1923 as follows:

	1924	1923
Gross profit	$608,757	$ 213,622
Expenses, taxes, etc.	271,755	394,856
Operating income	$337,002	*$181,234
Other income	21,606	76,907
Total income	$358,608	*$104,327
Interest, etc.	376,106	403,101
Depre., deple., etc.	426,703	494,744
Deficit	$444,201	$1,002,172

*Loss.

James D. Williams, vice president, states that drastic reorganization of the capital structure of the company is necessary and new capital for needed improvements and working funds must be secured.

Penn Mex Fuel Co.

The directors of Penn Mex Fuel Co. have declared a dividend of 50 cents per share payable May 21 on stock of record May 15.

NORTH CENTRAL TEXAS

(Continued from Page 32)

2, 3,535 feet; No. 4 Pierce, 265 feet; The Texas Co.'s No. 2 Grimes, 840 feet; No. 4 Houston, 1,435 feet; No. 41-A Parks, underreaming; No. 43-A Parks, drilling at 798 feet.

Eastland County Drilling

Allen and others' No. 1 Allen, drilling at 750 feet; Carter and others' No. 5 Langford, 660 feet; Corzelius Brothers' No. 1 Brewer, 1,250 feet; Dorothy Oil Co.'s No. 1 Hargus, spudding; Hoffman and others' No. 1 Lyerla, drilling at 1,125 feet; Kirk and others' No. 1 Blackman, 685 feet; No. 6 Shugart, fishing at 2,877 feet; Mid-Kansas Oil & Gas Co.'s No. 10 Harrell, Account 2, cleaning out at 3,591 feet; Mook-Texas Oil Co.'s No. 4 Harrell, drilling at 450 feet; No. 1 Williamson, 3,020 feet; Prairie Oil & Gas Co.'s No. 22 Roper, 2,250 feet; Reclamation Oil Co.'s No. 6 Bond, 2,950 feet; No. 7 Bond, 1,900 feet; Sinclair Oil & Gas Co.'s No. 8 Davis ,1,400 feet; States Oil Corp.'s No. 5 Hamer, casing at 3,485 feet; No. 4 Summerall, drilling at 2,116 feet; Teatsworth and others' No. 4 Scott, spudding; Urbin and others' No. 1 Cox, drilling at 3,070 feet; Westheimer and others' No. 9 Hamilton, 3,130 feet; Adams and others' No. 1 Donovan, 3,645 feet; Burkett and others' No. 1 Robinson, 2,920 feet; Car-De-Zone Oil Co.'s No. 1 Stubblefield, showing oil at 3,413 feet; McBride and others' No. 1 White, drilling at 2,200 feet; Pennant Oil & Gas Co.'s No. 8 Teston, 2,448 feet; Reeves and others' No. 1 Leveridge, 350 feet; Adams and others' No. 1 McClelland, making 7,000,000 feet of gas at 3,660 feet; Root and others' No. 1 Lee, drilling at 307 feet; No. 1 Noble, 2,100 feet; States Oil Corp.'s No. 1 Calvert, fishing at 3,398 feet; No. 1 Hise, casing at 3,400 feet; The Texas Co.'s No. 1 Foster, drilling at 480 feet; Texas Development Co.'s No. 1 Eppler, 2,950 feet; Weaver Oil Corp.'s No. 2 Ammerman, 1,270 feet; No. 2 Dublin, 2,012 feet.

Wildcats Drilling

Roberts County—Engle and others' No. 1 Ledrick, drilling at 2,440 feet; Hutchinson County—Dixon Creek Oil Co.'s No. 2 Smith drilling at 1,780 feet; Middleton and others' No. 1 Weatherly, 800 feet; New Domain Oil Co.'s No. 1 Borton, 2,690 feet; Panhandle Refining Co.'s No. 1 Perkins, 2,350 feet; Prairie Oil & Gas Co.'s No. 1 Shaw, 3,525 feet.

Carson County—American Refining Co.'s No. 1-C Burnett, drilling at 1,819 feet; Crosbie Oil Co.'s No. 2 Burnett, 2,821 feet; Olson Brothers' No. 1 Burnett, 2,969 feet; Silk and others' No. 4 Burnett, 1,260 feet; The Texas Co.'s No. 3 M. C. Burnett, 2,115 feet.

Gray County—Clark and others' No. 1 Combs & Wooley, drilling at 2,880 feet; Danciger Oil & Refining Co.'s No. 1 Bowers, 2,759 feet.

Wheeler County—Globe Oil Co.'s No. 1 Williams & Laycock, spudding; Nobles Oil Co.'s No. 1 Williams-Laycock, spudding; Shedden and others' No. 1 Westmoreland, drilling at 1,240 feet; Texhoma Oil & Refining Co.'s No. 1-A Jackson, 1,637 feet; Whittington and others' No. 1 Porter, 1,350 feet; Whittington and others' No. 1 Nicholson, 1,370 feet; Vaughan and others' No. 1 Key, underreaming.

Baylor County—Lehman and others' No. 1 Shawver, drilling at 1,320 feet; Dyer and others' No. 1 Cox, 1,400 feet; Southern Exploration Co.'s No. 1 Michna, underreaming.

Clay County—Ashcraft and others' No. 1 Robinson, underreaming; O'Neil and others' No. 1 Alcorn, drilling at 1,595 feet; Lone Star Gas Co.'s No. 1 Magnolia, showing gas at 1,628 feet; No. 23 Martin, drilling at 1,640 feet.

Mnotague County—Daniels and others' No. 2 Salmon, cementing casing at 835 feet; Humphreys Corp.'s No. 1 Hinton, drilling at 810 feet; No. 2 Maddox, 1,725 feet; Newblock Oil Corp.'s No. 1 Maddox, 600 feet; Owenwood Oil Corp.'s No. 1 Salmon, fishing at 1,700 feet; Pure Oil Co.'s No. 1 Jones, drilling at 490 feet; The Texas Co.'s No. 1 Howard, underreaming.

Cooke County—Godley Oil Co.'s No. 1 Florence, drilling at 1,800 feet; Petitt and others' No. 1 Nelson, fishing at 2,620 feet; Rawson and others' No. 1 Aldredge, drilling at 2,725 feet; Red River Drilling Co.'s No. 1-A Jones, 2,100 feet.

Grayson County—Clopton and others' No. 1 Thorne, drilling at 1,910 feet; The Texas Co.'s No. 1 Cannon, 2,610 feet.

Throckmorton County—Domestic Oil Co.'s No. 1 Baber, drilling at 680 feet; Downing and others' No. 1 Ewalt, 1,230 feet; Gwynn and others' No. 1 Portwood, 1,320 feet; Hill and others' No. 1 Polk County, 835 feet; Hoffer Oil Corp.'s No. 1 Richards, 855 feet; Humble Oil & Refining Co.'s No. 1 King, 1,630 feet; Johnston and others' No. 1 Batchlor, underreaming; Schimmel Oil Co.'s No. 1 Kelly, drilling at 1,530 feet; Sheldon and others' No. 1 Whitiker, 1,426 feet.

Kent County—Greenwood and others' No. 1 Kuteman, is drilling at 2,000 feet.

Shackelford County—Cerf and others' No. 1 Poindexter, cleaning out at 2,720 feet; Hope Petroleum Co.'s No. 3 Jeter, drilling at 1,130 feet; Hope Petroleum Co.'s No. 1 Reynolds, showing gas at 1,007 feet; Landreth Production Co.'s No. 2 Kendrick, drilling at 680 feet; No. 1 Moberly, underreaming; Loggi and others' No. 2 Black Brothers, spudding; McLean Drilling Co.'s No. 1 Matthews, drilling at 580 feet; Phillips Petroleum Co.'s No. 1 Compton, 2,160 feet; Tannehill and others' No. 12 Moberly, underreaming.

Palo Pinto County—Burton-McKee's No. 4 Strawn Coal Co., is reaming. Pender Production Co.'s No. 1 Rasmussen, drilling at 2,520 feet.

Parker County—English and others' No. 1 Peters, underreaming; Weaver and others' No. 1 Evans, drilling at 2,695 feet.

Erath County—Gillett and others' No. 1 Mauldin, drilling at 710 feet.

Callahan County—Nichols and others' No. 1 Davis, drilling at 620 feet.

Mitchell County—Harris and others' No. 2 Brown, drilling at 600 feet; Sloan and others' No. 1 Scott, 1,400 feet; No. 6 Smart, 2,080 feet; No. 7 Smart, 2,380 feet; California Co.'s No. 1 Elder, Lease No. 1, showing oil at 3,075 feet; No. 2 Elder, Lease No. 2, drilling at 2,630 feet; No. 3 Elder, Lease No. 3, 2,604 feet; West Texas Petroleum Co.'s No. 4 Miller, 2,800 feet.

Sterling County—Chicago Texas Oil & Gas Co.'s No. 1 Durham, drilling at 2,210 feet; Pettit and others' No. 1 Reynolds, 720 feet; Northup and others' No. 1 Ellwood, 915 feet.

Coke County—Weidler Oil Co.'s No. 1 Mims is underreaming.

Coleman County—Canyon Oil & Gas Co.'s No. 1 Morris is drilling at 1,380 feet.

Brown County—Gillman and others' No. 3 Moore topped sand at 1,232 feet; Maloy and others' No. 1 Prather, drilling at 800 feet; Mendenhall and others' No. 4 Newton, 340 feet; Moore and others' No. 1 Chambers, 1,412 feet; Moore & Wilson's No. 2 Gafford, 675 feet; No. 3 Westerman, 918 feet; Prairie Oil & Gas Co.'s No. 5 Gaines, 415 feet; Ward Oil Co.'s No. 1 Windham, 1,589 feet.

Comanche County—Trojan Oil Co.'s No. 1 Utterback, drilling at 2,270 feet.

Reagan County—Big Lake Oil Co.'s No. 17 University, drilling at 2,545 feet; No. 19 University, cleaning out at 2,795 feet; No. 20 University, fishing at 2,500 feet; No. 25 University, bailing out at 2,614 feet; No. 26 University, drilling at 1,405 feet; No. 27 University, 2,120 feet; No. 28 University, 705 feet; No. 29 University, 930 feet; California Co.'s No. 1 University, 3,915 feet; Cogdell and others' No. 1 University, casing at 752 feet; Texon Oil & Land Co.'s No. 10, Group 1, University, underreaming; No. 11, Group 1, University, drilling at 2,579 feet; No. 12, Group 1, University, fishing at 2,490 feet; No. 14, Group 1, University, drilling at 505 feet; No. 15, Group 1, University, 470 feet.

Upton County—Reagan and others' No. 1 University, drilling at 2,490 feet; Willis and others' No. 1 University, fishing at 650 feet.

LA ROSA FIELD WELLS SANDING UP

(Continued from Page 28)

wells, which have been making around 20,000 bbls., are reported down to 13,000 bbls. This includes production from the inland wells situated a mile or less inshore and which are not affected by the closely competitive conditions along the lake.

The sand condition is aggravated by the close drilling. Some attempts have been made by the operating companies, notably the Venezuela Gulf and the Lago Petroleum, both American controlled companies, to reach some agreement as regards offsetting. What is actually happening is that the three companies—including the Venezuelan Oil Concessions, which is Royal Dutch—are engaged in a line drilling fight. All the wells in the particular area are bunched in a strip not exceeding 1,500 feet in width.

It is understood that the Venezuela Gulf and the Lago Petroleum not so long ago were adhering to a policy of keeping 75 meters between wells, as against a former policy of actual offsetting. The wells are staggered at that distance and it is believed that while some difficulty was experienced in carrying out this policy, due to the present situation the necessity of the companies keeping wells to the distance mentioned and keeping down the flow of individual wells will bring about a better understanding.

The sand encountered in the La Rosa Field, and, in fact, in all the Venezuelan fields, is finer than any encountered in this country. The Venezuelan Gulf Oil Co. is not only making thorough scientific study of producing methods in the field but has the management of its properties under the supervision of men experienced in drilling in Mexico and is using so far as possible drillers experienced in the Gulf Coast regions of the United States where sand also offers considerable trouble. While much experimenting has been done with the handling of the La Rosa producers, operators admit that continued experience alone will work out the sand problems. It is apparent at the present stage of development, they say, that each well must be handled separately and that no rule will work for all.

Too Close Competition

A geologist familiar with conditions in the La Rosa Field believes much of the trouble is due to failure of the companies to work out an agreement as to spacing of wells and the tendency to pull too heavily on the wells under stress of competitive conditions. The closest similarity of structure in this country to the Venezuelan producing sands is found in California, he states, the producing sands being in zones. The producing horizons in the Maracaibo district are analogous to the so-called oil zones of the Los Angeles Basin and the San Joaquin Valley, and the use of rotary methods, patterned after California practice, has been practically established.

Sanding up difficulties are encountered in all of the Venezuelan fields, including Mene Grande, where the production is practically in the hands of one company, and there is no complication from overcompetition such as is the case at La Rosa. At La Rosa, the wells are drilled down 50 or 60 feet from the top of the zone into the sand. As explained by this authority, the oil zones in Venezuela probably have a minimum thickness of 500 feet of shale and sand. As a well is pulling only from the top of the zone, the present sanding up difficulties, in his opinion, merely indicate that the top few feet of sand has been exhausted and there has been a saddling up, stopping the flow through the pipe. In some cases drilling deeper will bring back the well, or cleaning out. He states use of screens and application of back pressure to a certain extent are aids in keeping the wells from sanding up, and in his opinion, wells capable of making up to 10,000 bbls. a day should not be permitted to make over 1,000 bbls. and wells over 10,000 bbls, not more than 1,500 bbls.

The Venezuela Gulf Oil Co., at La Rosa, is drilling entirely by rotary. The well is drilled to the sand and the casing set down to the sand. Casing is reduced down to ⅞-inch or 1¼-inch and 1½-inch, according to the well. The well is then drilled through the sand, a liner with perforated pipe being put down into about 40 to 60 feet of sand. The liners being used have ⅝-inch holes set 3 inches apart. The wells are frequently bailed out to keep them from sanding up. All the Gulf wells are producing through chokes, there being two or three chokes on a well, the size ranging from ⅞-inch to 1½-inch.

Effect on Shipments

Whether the present situation at La Rosa will mean the permanent loss of some of the wells now having trouble it is impossible to state. If this proves to be the case and new wells have to be drilled, the effect on production may be felt for some little time.

As stated, the effect on shipments will probably not show in April, in fact, shipments will probably show an increase in April, but in May there may be a marked decline. Shipments by company for the first three months of this year follow:

	January Barrels	February Barrels	March Barrels
Caribbean Petroleum Co.			
From San Lorenzo	311,000	321,000	466,000
From La Rosa	346,000	479,000	414,000
From Altagracia	243,000	222,000	319,000
Total	900,000	982,000	1,199,000
Lago Petroleum Co.			
From La Rosa	225,000	167,000	293,000
Venezuela Gulf Oil Co.			
From La Rosa	50,000	120,000	225,000
Total all shipments	1,168,000	1,269,000	1,717,000

To just what extent shipments will be affected in May also depends on how much storage oil will be moved. The Gulf has four 25,000-bbl. tanks at its Cabimas terminal on Lake Maracaibo and four 80,000-bbl. tanks at its main loading terminal on the Paraguana Peninsular. In the middle of March the Lago had 355,000 bbls. of storage erected and 330,000 bbls. under construction. It is understood the quantity of oil drawn from storage the latter part of April was substantial.

REFINING AND MARKETING

CITIES SERVICE CO. REPORTS AN EXPANSION

Improvements have recently been made at all the refining subsidiary interests of the Cities Service Co., according to an official report of the company. The capacity of its natural gasoline plants has also been enlarged. The oil marketing subsidiaries have also increased their wholesale and retail facilities. The report states in part:

"In the natural gas department, additional reserves were opened up and operating conditions improved generally. One new gasoline extraction plant was added and another enlarged. Over 10,000,000 gallons of gasoline were extracted from natural gas during the year, an increase of 50 per cent over the preceding year.

"Improvements were made at a number of the refineries. At Boston the Cities Service Refining Co. installed two cracking units having a charging capacity of 2,000 bbls. of gas oil per day, and additional storage capacity bringing the latter up to 825,000 bbls. The Cushing plant at Cushing, Okla., added one cracking unit, and two units were added at Ponca City, Okla. Further improvements in the Okmulgee plant at Okmulgee, Okla., increased this plant's capacity to 3,000 bbls. per day. An alcohol plant was also installed at the Okmulgee refinery, which utilizes the gases from the pressure stills and produces various grades of industrial alcohol.

"Early in 1924 the Cities Service Export Co., was organized to handle all export activities, and this business expanded favorably during the year. Transportation facilities were further enlarged during the year by the purchase of two 10,000-bbl. tank ships, the Shreveport and Watertown, by Cities Service Transportation Co. and the purchase of 370 new steel tank cars by Empire Tank Line Co.

"By the oil marketing subsidiaries additional retail facilities were purchased in Wisconsin, adding 14 new communities to the Northwestern territory. Bulk facilities were added in St. Louis and Kansas City, Mo.; Rome, Richester, Niagara Falls, Schenectady, Syracuse and Long Island City, New York; and Hartford, Connecticut. Service stations were added in New York City and Toronto, Canada

MAGNOLIA RUNS

HOUSTON, Tex., May 18.—The runs of the Magnolia Petroleum Co., from the Luling Field to Magpetco, near Beaumont, were only 80,616.41 barrels during April, or an average of 2,687 barrels daily. Runs from the Lockhart Field for part of the some month were 19,425,36 barrels, which went into storage at Luling. The eight-inch line from Luling to Magpetco handled an average of 20,000 barrels daily, however, as the company pumped out of storage in the Luling district. The Magnolia Co., is buying a portion of the daily production of the United North and South Oil Co., in the Luling Field at a posted price, which will be reflected in increased runs from the field this month. The company is adding to its stocks in storage in the heavy gravity district of the Smackover Field by purchases of crude and is now building 10 more 55,000-bbl. steel tanks there.

NEW TIDE WATER DIRECTORS

Francis D. Bartow, Edward L. Shea and F. Bailey Vanderhoef have been elected directors of the Tidewater Oil Corporation to fill the places left vacant by the retirement of Frank Haskell, Dixon Q. Brown and J. B. Edwards. R. D. Benson has been renamed chairman of the board; Axtell J. Byles, president; Robert McKelvey, vice president; F. A. Marcellus, treasurer, and B. D. Benson, secretary. Mr. Shea was elected vice president.

KANSAS OIL MEN'S ASSOCIATION HOLDS CONVENTION AT WICHITA

WICHITA, Kans., May 16.—C. R. Howard, of Mt. Hope, was reelected president of the Kansas Oil Men's Association at the eleventh annual convention held here. Other officers chosen were A. C. Carpenter, Ottawa, first vice president; George E. Waite, Winfield, second vice president; Rex Kent, Independence, third vice president; A. W. Long, Manhattan, reelected treasurer, and J. A. Motter, Wichita, reelected secretary.

Speaking on "The Power of Government and the Sanctity of Property Rights," James A. Veasey, general counsel for the Carter Oil Co., Tulsa, Okla., struck the high point of the convention in an address before a banquet of 300 delegates and guests, the concluding feature of the convention.

"One of the fundamental principles of the constitution, of which every American is aware, is that he has certain inalienable rights, which rise superior to government," declared Mr. Veasey. "One of these rights is that a person may conduct his business according to his own wishes and interests, provided such action does not interefere with the rights of anyone else."

Mr. Veasey made an analysis of the legal basis of individual rights and the power of government from the historical standpoint, emphasizing the part in the American political system the courts have played between the citizen and the Government. He explained the purpose and intent of the Oil Conservation Board appointed by President Coolidge to study the petroleum industry, saying:

"No one can deny that there is something wrong with the oil industry. But the Federal Government has not the power of regulating the drilling of wells, as was the contemplation of the Oil Conservation Board. The Government can legislate only to prevent waste of oil and gas, or to protect producing sands. The producers of Kansas have been especially fortunate in not being harassed by local legislation as have the producers of other States, notably Louisiana.

"Here is a warning if we are to prevent a paternalistic Government from growing up—fair and prudent dealing on the part of the dealers and producers. You may, by other methods, get by for a year or for a generation, but finally three-fourths of the States and two-thirds of Congress by constitutional amendment will see that you get by no longer."

Victor Murdock, editor-in-chief of The Eagle, Wichita, followed Mr. Veasey, speaking on oil.

Present for the banquet were several visitors, including Miss Ramona Marcella Trees, Winfield, Kans., Queen Petrolia of the International Petroleum Exposition, and Seth G. Wells, Kansas oil inspector, both of whom made brief talks.

Athletic entertainment and a dance completed the program of the convention.

Gasoline Tax Explained

The Kansas gasoline tax, which went into effect on May 1, was the chief consideration of the more than 200 members of the association at the morning session. Earle W. Evans, Wichita attorney, who has represented many oil concerns in legal fights, analyzed the tax measure, gave an account of its framing and consideration by the State legislature, and made suggestions to the dealers as to its satisfactory observance. He said in part:

"Never did a State legislature cooperate better than did that of Kansas in preparing this tax plan. The legislature allowed a committee of oil men to prepare the bill. This committee, representing most of the companies of the State, met at Kansas City, and after the vote was taken on their work there was not one dissension. The bill as prepared by the oil companies was the one passed by the legislature.

"Some persons have thought the gasoline tax unsatisfactory because it is not a sales tax, but it is much easier to check up on receipts than on sales. With the 3 per cent shrinkage allowance, no one is in danger of being hurt by the provisions of the measure. I believe the Kansas gasoline tax is as free from harm, as equitable and as workable, as it is possible to make such a law at the outset.

"The most prolific source of inquiry and controversy over the tax has arisen from the question, 'What is going to be come of the money?' It is best to avoid this question as it is not the business of the oil men. There is nothing in the law saying anything about the disposal of the money, and I suspect there will be much controversy over the issues of division."

The afternoon session was marked by the address of A. C. Carpenter, of the Lesh Oil Co., Ottawa, Kans., on "Lubricants." Mr. Carpenter spoke on crankcase dilution and the results of tests made on automobiles with various forms of lubrication. K. C. Parkhurst, of Wichita, traffic manager for the Kansas Oil Men's Association, made an address of appreciation on the success of the convention. Open forum on the details of the gasoline tax law closed the business sessions.

While not a convention speaker, J. A. Vickers, president of the Vickers Petroleum Co., gave an interview on the oil situation, following a two weeks' business visit to the larger cities of the East.

"The Mid-Continent oil field is now the chief supply of light crude oil for the world and I look for Kansas to come way to the front in the petroleum industry within a short time," he declared.

"Kansas will some day be a great oil State," he prophesied. "There are now more wells drilled in Pawnee County, Oklahoma, than there are in all western Kansas, but drilling in this State is progressing rapidly. The prospects for the locality around Wichita are also good, I believe. The Eastern fields, through Pennsylvania, Ohio and Virginia, are playing out, and the world is looking to the West for its petroleum production.

"I have found from my trip to the East that oil is bullish. Eastern finance is looking around for established western companies with which to place its money. This is all reflected in the general business prosperity of the entire country; but I do not believe the price of oil will rise to any great extent."

Officers of the Kansas Oil Men's Association who will direct affairs of the oil men for the ensuing year are (left to right) C. R. Howard, Mount Hope, president; A. W. Long, Manhattan, treasurer, and J. A. Motter, Wichita, secretary.

LESS FUEL OIL USED BY UTILITY PLANTS

Fuel oil consumption for the production of electric power by public utility power plants has shown a consistent decrease according to a report of the geological survey. The power plants in March only used 26,900 bbls. of fuel oil daily against 49,800 bbls. in March of last year and 35,500 bbls. in February of this year. The decline this year is further emphasized by the fact that in January of this year 44,000 bbls. daily were used. The average for all of 1924 was 45,700 bbls. daily.

Coal and gas consumption at the power plants is about holding its own. In March 107,000,000 feet were daily consumed, approximately the same as March of last year. The average for last year was 132,600,000 feet. The daily average consumption of coal in March was 102,600 tons. The average for 1924 was 102,500 tons daily.

Water is displacing fuels as a source of electric power, according to the government's report. The production of electricity by the use of water power in the first quarter of this year was about 11 per cent greater than last year.

NOBLE CO. ELECTION

T. B. Preston was reelected president of the Noble Oil & Gas Co. at a meeting held last week at the Tulsa offices. W. C. Abrams was elected vice president and treasurer; Carl C. Magee, secretary and R. B. Martin, assistant secretary and treasurer. In addition to the officers George H. Kirchner, J. Hollandmoritz and W. T. Schnur were elected to the board of directors. A distinctive brand for products sold by the company was agreed upon at the meeting.

A. O. M. A. FALL SESSION

CHICAGO, May 18.—The fall convention and industrial exhibit of the American Oil Men's Association will be held at the Congress Hotel October 20, 21, and 22, according to an announcement by H. G. James, secretary and manager of the association. Mr. James says an excellent program is being arranged. Colonel Theodore Peck of the Pierce Petroleum Co. whose address at Kansas City was one of the outstanding features of the spring meeting of the association will also address the fall meeting. Other features for the convention are being arranged.

IN NEW POSITION

OIL CITY, Pa., May 18. — H. H. Lowrie, life long resident of Oil City, has resigned from the Independent Refining Co. to accept a position with the Quaker State Oil Co. He has been with the Independent company more than five years.

Measurement of Crankcase Dilution

Simple Method Suitable for General Use Developed at Bureau of Standards. Equipment and its Use Explained

By T. S. Sligh, Jr.*
Physicist. Bureau of Standards

One of the most serious problems with which the users of automobile oils have to contend is the loss of viscosity of the oil in service. It is common experience that oils which were originally sufficiently viscous to give satisfactory lubrication soon become so thin that lubrication is seriously impaired, wear is increased and oil consumption becomes excessive. As a result of this condition it becomes necessary to drain out and discard the crankcase oil periodically and put in fresh oil.

One of the commonest complaints made regarding crankcase oils is that they break down and become as "thin as water." This loss of viscosity is not due to decomposition or breaking down of the oil but is a result of dilution of the oil by some of the less volatile portions of the fuels used. The problems of dilution are part of the price which the motoring public must pay for the greater and greater amount of motor fuels which must be supplied to keep pace with the ever increasing production and use of automobiles.

While dilution is attributable to the necessary use of fuels of low volatility, it should not be inferred that the less volatile constituents are not utilized in the combustion. As a matter of fact only a small percentage of the total amount of these constituents present in the fuel goes to dilute the crankcase oil, the greater part being burned to produce useful energy in exactly the same way that the more volatile constituents are burned.

This diluent is not only burned because it chanced to be the portion of the fuel which condensed on the too cold cylinder walls or was absorbed by the oil film and so protected from combustion. Dilution is not due primarily to leakage of fuel past the piston, although loose pistons and rings do seem to tend to increase the rate of dilution.

The mechanism of dilution has been discussed in detail elsewhere* but it may be stated here that the dilution cycle is a reversible process which depends upon the oil film temperature and the relative concentrations of fuel in the oil film and in the cylinder. The percentage of dilution which the oil in the crankcase may attain under a given set of operating temperatures corresponds to an equilibrium state where the rates at which diluent is added to and eliminated from the oil are just equal. It follows that higher dilutions will result from operation with a rich mixture and a cold motor than with a hot motor and a lean mixture. This is borne out by the common experience of much higher average dilutions in winter than in summer.

Precise Method Outlined

In the study of factors which affect crankcase dilution, it is desirable that a precise method of measuring the percentage of dilution be available. A method which has been found to yield results accurate to within about one-half per cent has been recently developed at the Bureau of Standards. This method consists essentially in obtaining the distillation curve for a 100cc charge of the used oil under specified conditions at an absolute pressure of about 4 cm of mercury. The percentage of diluent may be precisely determined from the distillation curve.[1]

*Published by permission of the Director of the Bureau of Standards of the U. S. Department of Commerce.

[1]Bull. A.P.I. Vol. V. No. 75; p. 115; December, 1924.

[2]A full description of the apparatus and procedure for this method and for the capillary funnel method described later may be obtained from the Bureau of Standards, Washington, D. C.

MEASUREMENTS OF CRANKCASE DILUTION

The dilution of the oil in the crankcase of the engine is one of the most serious problems connected with the lubrication of automotive vehicles. In this paper Mr. Sligh gives a brief discussion of the causes and effects of dilution and describes briefly a precise method of measuring percentage of dilution and in more detail a simpler approximate method which seems suitable for general use. Some applications of the method are stated.

The vacuum distillation method yields results which are rather more accurate than are necessary for the examination of oils from cars in ordinary service since normal variation in the operation of such cars may affect the resultant dilution by several per cent. A much simpler method which may be expected to yield results within 1 or 2 per cent of the truth is suggested for this work.

The capillary funnel method is based on the fact that in a distillation of used oil containing diluent, the diluent distills off first and there is an abrupt increase in the viscosity of the distillate as the oil begins to distill over. The volume already distilled at the time this increase in viscosity occurs is taken as the amount of diluent in the charge of used oil.

The apparatus required is:
Electric heater, 350 watts, or
Bunsen burner
250 cc Pyrex Distillation Flask as shown
Condenser
Steel wool
Cork
100 cc Graduate
Capillary funnel as shown

Procedure

Measure 100 cc of the oil to be tested into a 250 cc distillation flask, as shown in Figure 1 and place the column of steel wool (about 5 grams of No. 3 wool formed into a cylinder about 6 inches long) in the neck of the flask.

Place a cork in the flask and support on heater or over burner.

Connect condenser which may be a 26-inch length of copper tubing three-eighth-inch outside diameter by 20 gage wall, a short water jacketed copper tube, as shown, or a conventional laboratory condenser.

Place graduate and capillary funnel to receive the distillate.

If a gas burner is used heat rapidly to the over point and then adjust the heat to maintain a head of about one-half-inch of distillate on the capillary.

The rapid increase in the head on the capillary at the transition between diluent and oil is taken as the end of the distillation and the corresponding volume of distillate is taken as the percentage of diluent in the charge.

The color of the distillate and its apparent viscosity as it goes into the graduate are corroborative evidence of the end of the test. The time required is from 8 to 10 minutes.

Notes

Water—While this method of distillation will take care of some water in the oil, it is advisable to allow the used oil to stand for a few hours in order that any water present may settle out. A sample drawn from the top of the settled oil will ordinarily distill without much trouble. Water may often be removed, to an extent which will permit distillation by passing the used oil through filter paper.

If the oil contains much diluent the initial rate of distillation may be very great; however, it can easily be brought under control before the critical point has been reached.

The appearance of oil is usually preceded by a marked decrease in the rate of distillation. This should be followed up by a gradual increase of heat where the gas burner is used as the transition is less marked if the head on the capillary becomes too small.

An electric heater which fits the bottom of the flask will, with an input of about 350 watts, carry the distillation through without adjustment. The test may be started with he heater either hot or cold.

Flooding of the funnel at the start of the distillation will also occur when test is started with a hot electric heater on oils having a high dilution, but it is not necessary to reduce the heat in this case as the distillation rate will usually decrease (with 350 watts input) to a value which will show only a small head of distillate on the capillary before the end of the test which is indicated by the rapid increase in this head.

The dimensions of the capillary funnel are not critical. Those shown require a distillation rate of about 4 cc per minute.

Cleaning Flasks—Flasks used for dilution distillations soon acquire a black deposit inside which should be removed occasionally. This deposit is not soluble in hydrocarbon compounds, but is removed by alcoholic caustic soda solution. This is a saturated solution of sodium hydroxide (ordinary lye may be used) in water diluted to twice its original volume with denaturated alcohol. The flask is filled with this solution and heated (care must be taken that expansion does not cause the flask to overflow), or is allowed to stand over night. The solution is then poured back into its glass container (it may be used repeatedly), the flask rinsed with water, and shaken out thoroughly with coarse washing sand. The solution does not dissolve the deposit but loosens it from the glass so that it may be washed out as above.

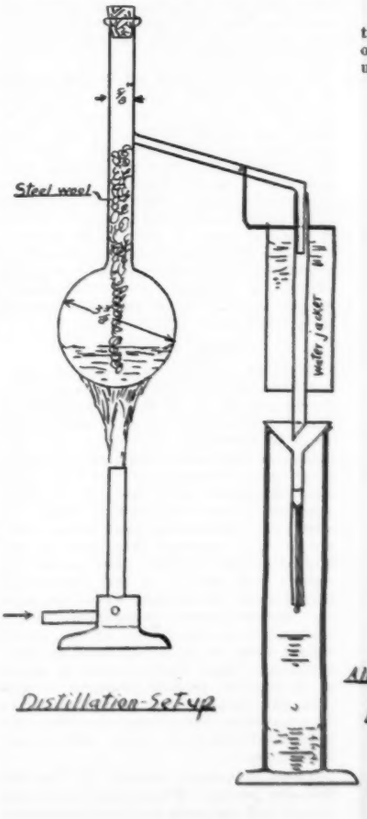
It will be seen that this distillation method is very simple and requires no special skill, especially when the electric heater is used.

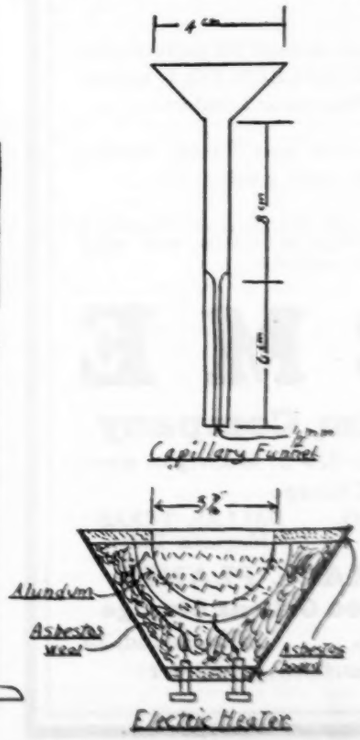
Applications

This method should be valuable in connection with the servicing of fleets of vehicles as occasional dilution tests will show definitely whether any vehicle is producing normal dilutions and may indicate the desirability of changes in equipment or in operation. Furthermore, information regarding dilution will often show that lubrication difficulties which have been attributed to the oil are in fact due to dilution and will direct attention to the real causes of the trouble.

Another field of usefulness lies in testing and in demonstrating the utility of the various devices which are designed to eliminate or reduce crankcase dilution.

One encouraging feature of the dilution problem lies in the possibility of improvement of the conditions now existing. More widespread information regarding dilution, its causes, and effects, is desirable and will doubtless do much to increase the efficiency of utilization of both fuels and motor oils.





You Can't Alibi When You Are Selling Service

A shoe manufacturer—noted for the quality and workmanship of his merchandise—can occasionally send out a bad lot of shoes and it is overlooked.

The material might have been bad. The machinery might not have been running right. There are always a number of excuses which both the trade and the consumers accept.

The same condition is more or less true in all businesses where tangible products are sold.

But it is never true in any business selling service alone.

A bank is never excused for failing to put money away safely—or failing to give interest when due.

A lawyer is never good-naturedly excused from losing a case.

No one ever pats the doctor on the back and says "let it go"—when the patient becomes sicker.

The modern world demands that humans be unfailing in constantly delivering perfection.

This demand for perfection is found in the oil business. It early became evident that a perfect service had to function between the refineries and the oil dealers.

Adequately filling this demand for perfect service is the ACME PETROLEUM CO. It insures the profit of both refineries and dealers.

Try ACME today—our past history demonstrates our ability to make good.

(This is the twenty-eighth of a series of informatory advertisements on distribution problems with which the Oil Industry has to contend.)

ACME

Petroleum Company

Executive Offices: 624 S. Michigan Ave., Chicago

KANSAS CITY, MO. Land Bank Bldg. **DALLAS, TEXAS** Magnolia Bldg.

OIL STORAGE PLANTS

Over 7,000,000 Gallons Storage

West Tulsa, Okla. Blue Island, Ill.

(Chicago Switching District)

INQUIRIES FOR JUNE SHIPMENTS STIMULATE CHICAGO OIL MARKET

By J. B. Waldo

CHICAGO, May 16.—Among the important happenings in the gasoline market of this city during the past week have been the numerous inquiries from oil jobbers asking quotations for June requirements. These inquiries may suggest much or little, that the jobber is going to buy, or that he is just checking up on the market to satisfy his curiosity. The latter is not probable. Taking into consideration the time of the month, for it is early for purchases for the coming month, the condition of the market as reported from day to day and week to week, it would seem most probable the jobber was getting ready to buy for more than his immediate needs and that he was possibly worried to some extent over the condition of his stocks and the cost of adding to them. There are many jobbers who were covered for all or part of their requirements for May but there are none or practically none who purchase in the open market who are covered for June. Few of the marginal contract jobbers have arranged for more than their minimum requirements and many may have to purchase additional cars to care for the consumption in their territory; in fact there is and has been for some time a demand for more gasoline than has been contracted for.

In addition to the inquiries for June deliveries, there has been a better business for spot shipments.

Expect Continuing Demand

The outlook for a continuing demand after the holiday is excellent. The Standard Oil Co. (New Jersey) is reported from several sources to be in a position where it will be a steady purchaser of gasoline for its stations and exports and of natural gasoline for its refineries. Heads of the company have stated as much and in one or two cases have named figures regarding their purchases that are startlingly large. There are other companies finding they will need more gasoline than their own refineries will turn out to supply the demand from their own stations.

It has been pointed out in this report in previous issues that it is not alone the fact stocks are large that gives a weak tone to the market, but that they are large and still increasing. Just as the largest stocks begin to decrease, even slowly if it be but steadily, the market regains strength. This has happened in the crude market and as soon as stocks of gasoline begin to decline, so long as it results from usual and not temporary conditions, the market will have an added element of strength, a sort of fundamental element which has been lacking for two years at least.

Prices Improving

Right at this moment, the price situation is improving. Many sellers are asking 11½ cents for U. S. Motors gasoline. There is some going at 11¼ cents, most of it on the tracks or rolling, but this cannot be replaced at the price at which it is being offered and the low price must disappear with the end of these supplies unless the refiners begin to offer their product at lower prices. Sellers who are accepting 11¼ cents for the Motors grade admitted they could not replace their sales at a cost that would permit them to continue to sell at that rate, but the desire for quick movement, especially at, the close of the week caused some to let go of some of their gasoline. There really is not so much of it and the present prospect is that with the first part of next week, only 10 days or so from Decoration Day, the market will be a flat 11½ cents if not 11¾ cents.

There is quite a demand for the 56-58—450 gravity. The weather will stand it now and the price is a little less which makes it attractive to jobbers. The demand for the higher gravities is about as usual, no great demand in comparison with the 437 and endpoint grade but enough to absorb supplies pretty cleanly. The most excited and exciting market is that for natural gasoline. Ask any dealer or buyer and they will say that it is scarce as "hen's teeth," and the price is what you can get it for. Sales of C grade at 12 cents are reported and the writer knows of a sale made some days ago to a large producer of the product at 11¾ cents and the seller rather thought he was granting a favor when he sold. Grade A is worth only a little more judging by the prices which are probably right now 12¼ to 12½ cents. The sustaining factor it is said here is the heavy buying by some of the large eastern concerns who have found out what a good thing is natural gasoline if properly used.

Kerosene Steady

The demand for kerosene is steady and larger. The orders come from all directions. Some attribute the demand to the fact that gasoline is higher in price and as a consequence the farmers are using more kerosene for tractor fuel. A little kerosene is selling at 4⅛ cents but the tendency is upward and some local marketers and practically all refiners are asking 4½ cents for the 41-43 gravity and 4½ to 4⅝ for the 42-44 gravity. Distillates are very dull, occasional cars selling for some special purpose or for tank wagon distribution to a few industrial users. Some small concerns, such as laundries, use a domestic oil burner the year round, also some bakeries.

Gas oil is apparently a little stronger in the field but the demand here is no better. The offerings are rather less free and refineries are inclined to insist the product is worth a little more. Some sellers have advanced the price one-eighth cent and others say it should advance a quarter of a cent, but the actual scale is still 2⅞ to 3 cents with practically no sales at the higher price. The theory here is the refiners are using more gas oil for their cracking stills since the increased demand for gasoline.

Fuel Oil Strong

Fuel oil seems fairly strong, but buyers and most of the trade argue this is not likely to last. The dealers claim there is no great if any improvement in the consumption and state the strength is due to some subsidance of the fear of what the flood of Smackover crude might do to the fuel oil market. The market for Smackover fuel is held generally at 85 cents and considerable business is being done right now at that price although some producing organizations claim this is below cost of the reliable product. Some producers are asking 90 cents and in one exceptional case as to quality of the crude and the fact that the consumer insisted on having a special product, a sale was made at 95 cents. Most of the heavy Smackover crude, so producers assert, is not of any real value as cracking oil and claim reports of 30 per cent and more of gasoline recovered are due to the fact that some of the lighter crude is used, but it is asserted by others the very heavy crude will yield a substantial amount of gasoline to the right process, some say at least 20 per cent, and that this leaves a better bunker fuel than the crude before it is topped. The demand is rather limited to immediate business and the outlook is not for any increase in the consumption, but rather for a decrease.

Lubricating oils are moving steadily and in large quantities. The consumption at the stations compares with that of gasoline and for the same reason. Refiners of high grade lubs claim they are doing a better business in proportion than the makers of inferior if widely used products, but this may be because the output of the better grades is comparatively limited and the number of competing concerns much less. The industrial demand while good, is not very

active, the buying being for immediate needs chiefly.

Tank Wagon Rumors

The tank wagon prices have not been changed generally in this territory and while there has been a crop of rumors of an advance of so much on such a date, most of the prophets have been proven false alarms because they named too early a date. There is very likely to be an advance when the refinery markets have had time to demonstrate they can hold their present prices, or better still, advance to a little higher rate.

GASOLINE "PRICE WAR" THREATENS EASTERN TANK WAGON STRUCTURE

By N. O. Fanning

NEW YORK, May 18.—That the eastern gasoline tank wagon structure is threatened by the "price war" now going on is the growing belief among students of the marketing situation. Although it is hoped in the highest oil trade circles the present "nominal" structure of 20 to 21 cents per gallon can be maintained throughout the summer, the fact remains that under current conditions a drop of 4 to 5 cents per gallon any time can be expected.

The situation can be summed up as follows:

The States on the Atlantic Seaboard, and especially Massachusetts, Connecticut, Rhode Island, New York and New Jersey, have developed an enormous consumption of motor gasoline because of the growing use of pleasure cars, commercial trucks, taxicabs and motor buses. Weather conditions have been so good as to make consumption at this particular time above normal. These facts have advertised the territory among the gasoline marketing companies as one of the best fields in the world for the sale of the product.

For many years this territory was supplied by a comparatively small number of companies, but each year the number of marketers has increased. One reason for this is that which has been mentioned, namely the large consumption; another is that there has been a consistent oversupply of gasoline in the country. It seems that whenever there is an oversupply in any section of the country it is moved into the eastern marketing territory and sold for what it can bring.

There has not been a shortage of gasoline on the Atlantic Seaboard since 1920, when most of the big Standard Oil units had to buy in the open market to supplement their own production of gasoline. In 1921 and 1922 the oversupply from the Mid-Continent vied with the large production of local plants. In 1923 California gasoline was dumped on the eastern markets in addition to that from the Mid-Continent Field; also, large independent marketing companies that had formerly kept out of the eastern market except to market in a small way, began to come in and push sales more earnestly. In 1924 the operations of companies outside of the "old-line" Atlantic Seaboard group increased materially.

Present Situation

At present there is competition in the eastern markets from almost every production center. The Mid-Continent is not dumping gasoline here on as large a scale as in 1921-1924, but California gasoline is coming in on an exceptionally large scale. In addition several large companies formerly restricting their operations to the Southwest and Middle West have begun operations here on a large scale.

One large independent has spent millions of dollars in the construction of gasoline service stations. Most of this investment was made during 1924, and the equipment now stands ready to supply gasoline in the larger cities of the Atlantic Seaboard. Naturally, after making an investment of this sort, the company must maintain its gallonage to get a sufficient return.

In addition, the Standard of Indiana-Pan American group are said to be enlarging their gasoline operations on the Atlantic Seaboard, and are well equipped with facilities for bringing the product here in competition with the "old line" companies. This group also has the production behind it — both gasoline and crude petroleum. It also has plenty of working capital.

Pan American Into Pittsburgh?

No announcement was made by the Pan American Petroleum and Transport Co. concerning the special meeting of directors held Saturday to clear up certain details incident to the recent change in management.

According to reports in the financial district, however, the company is contemplating the erection of storage facilities in the Pittsburgh district, which will bring about more competition in that section. Such a step, it was believed in oil trade circles, would give the Standard Oil Co. of Indiana, which now controls the Pan American eastern organization, a strong position in the eastern States. According to the report, the Standard Oil Co. of Indiana plans the transportation of gasoline in barges from the Pan American Destrehan refinery, near New Orleans, to the middle western section of the country. It also was stated that the company plans to distribute gasoline at all points along the route and also in Indiana and Illinois.

The establishment of storage facilities in the Pittsburgh district, it is believed, is to compete with other companies for the fuel oil business now carried on almost exclusively by the Atlantic Refining Co. and the Gulf Oil Corp. in the manufacturing districts in and around Pittsburgh. Through the acquisition of the Mexican properties of the Pan American Petroleum and Transport Co., the Standard Oil Co. of Indiana, it was stated, was in a position not only to compete actively in the foreign fuel oil markets, but to carry on its operations on an extensive scale in the eastern and middle western States, where large quantities of fuel oil are consumed annually.

When the Standard Oil Co. of Indiana first announced the acquisition of the Pan-American properties, it was intimated that the efforts of the new management would be confined chiefly to the foreign markets, but the latest report, if true, means that the new executives have changed their plans and intend to take advanage of all the opportunities offered in this country as well as supplying the foreign markets.

Taking the picture of competition between practically every big company in the United States outside of the Pacific Coast group, it is not difficult to appreciate the extent of the competition now developing in the eastern markets.

As to Methods

Motorists look on with wonder at the spectacle of the range in prices and of the differences in quality of the gasoline they buy. Service stations adjoining each other advertise retail prices differing from 1 to 4 cents per gallon. Many motorists say the quality of gasoline differs, even as between different service stations advertising the same brand of gasoline.

Some gasoline marketing companies sell goods only under their own trade name, but others sell to dealers who advertise under different brand names.

No responsibility can be placed for conditions existing in the gasoline marketing business in the East, but nevertheless a situation undoubtedly exists which will do as much harm to the oil business as a whole as to individual concerns unless some method is devised of reducing competition at least to an "intelligent" basis—that is, to a basis which will further the good will of the industry by benefiting the consumer.

MANEUVERING FOR MORE GALLONAGE FEATURE OF EASTERN OIL SITUATION

By N. O. Fanning

NEW YORK, May 16. — The feature of the eastern refined oil markets during the past week has been the further development of the gasoline price war, with maneuvering of the various companies engaged in this in an effort to increase their gallonage in what is considered one of the best gasoline marketing territories in the country.

Although there was a general advance in the gasoline tank wagon market by the Standard Oil Co. of New Jersey and Standard Oil Co. of New York, covering almost the entire Atlantic Seaboard, one is led by the circumstances to wonder just what this advance meant, or what the future course of the market would be.

The Texas Co. started things when it reduced the price of gasoline 2 cents, tank wagon basis, from 20 to 18, in New York City, Stamford, Conn., and Springfield, Mass. This reduction was followed by Gulf and by Standard of New York only in New York City. The latter company, three days later, came back with an advance of 1 cent in all parts of its territory to 21 cents, and a "readjustment," as the company was careful to state, of 2 cents in New York to 20.

The net result of The Texas Co.'s action seems to have been to have postponed the expected advance of 1 cent above the 20-cent level in New York City by the Standard Oil Co. of New York. Also, The Texas Co. has refused to follow the Standard company in New York. Judge Amos L. Beaty, president of The Texas Co., yesterday said: "While following the advance elsewhere, we shall make no change in our tank wagon price for New York City where our principal competitors continue to sell favored dealers at from 1½ to 2 cents under their published price." The Texas Co. price in New York remains at 18 cents.

The writer has also been reliably informed that some large marketers (not those publishing tank wagon prices, however) are selling freely to dealers at as low as 14½ cents per gallon. In view of this, just what reliance can be placed upon the prevailing tank wagon quotations?

It is quite plain that Mid-Continent refiners, for instance, selling in this territory would not gain the benefit of the 21-cent tank wagon price so long as competitors are selling for several cents per gallon below this figure.

Export Prices Advanced

The Standard Oil Co. of New Jersey has also advanced the export price of gasoline here one-half cent per gallon, affecting all grades.

Gas and Fuel Oil

Gas and fuel oils remain firm, despite the fact that Mexican crudes are weak and fuel oil remains comparatively cheap at the Gulf.

Panuco crude is now quoted at $1.10 per barrel f.o.b. Tampico and light Mexican is available at $1.20.

Paraffin Was Weak

The paraffin wax market was somewhat soft, due to slowing of the domestic industrial demand and smaller exports. The lower melting points were reduced slightly, 120-122 a.m.p. dropping three-eights of a cent a pound to 5⅞. 125-127 the same amount to 6. Wax of 130-132 melting point was reduced one-quarter cent to 6½. The higher grade, 135-7, remains unchanged at 7½ cents.

Petroleums Unchanged

Petrolatum prices were unchanged during the week, but the market is heavy. Amber and light amber are quoted at 3¾ cents and 4 cents per pound, respectively, in barrels, carload lots. Cream is unchanged at 7¼ cents.

Exports Decline

Exports of petroleum from New York reported last week did not show any material improvement. The exportation of cased gasoline and kerosene was the only bright spot. Shipments of gasoline in cases amounted to 3,112,080 gallons, against 2,251,136 gallons the week ended May 6. Exports of kerosene during the week ended May 13 were 2,231,660 gallons, compared with 3,043,280 gallons the week preceding.

The barrel movement of lubricants held up fairly well, amounting to 1,138,700 gallons, compared with 978,700 gallons a week ago.

All other branches of the export trade were dull. No bulk business whatever was recorded. The paraffin wax movement was especially small, amounting to only 111,980 pounds of refined and 770 bbls. of crude, against 1,341,340 pounds of refined wax the week before.

The largest export shipment of gasoline reported during the past seven days consisted of 105,000 cases consigned to Argentina. Another large shipment was 75,550 cases to Australia.

The following table shows principal exports of petroleum and petroleum products from New York reported during the past three weeks (figures in gallons unless otherwise stated in parentheses):

	Week Ended		
Gasoline:	May 13	May 6	Apr. 29
Bulk	.....	1,568,627	.....
Barrels	.....	221,706	.....
Cases	3,112,080	2,251,136	1,089,480
Kerosene:			
Bulk	.....	.....	3,067,612
Barrels	.....	174,700	.....
Cases	2,231,660	3,043,280	1,994,490
Lub. oil:			
Barrels	1,138,700	978,700	1,275,950
Cases	100,320	375,850	86,120
Lub. grease:			
Cases	.....	1,100	.....
Paraffin wax:			
Bags (lbs.)	111,980	1,341,340	762,080
Barrels	770	.....	.....
Pet. asphalt:			
Barrels	1,079	5,608	.....
Pet. coke:			
Bags (tons)	.....	.....	995
Crude oil:			
Barrels	.....	2,338	3,128

Oil Receipts Drop

There was a sharp decline in estimated receipts of crude and refined oil at Atlantic ports during the past week. Receipts for the week ended May 13 averaged only 376,000 bbls. daily, compared with 688,000 bbls. daily the week ended May 6, a reduction of 312,000 bbls. per day.

Receipts from the Gulf Coast fell from 411,000 bbls. daily during the week ended May 6 to 195,000 bbls. daily, a decline of 216,000 bbls.

Receipts from the Pacific Coast dropped to 61,000 bbls., a decrease of 64,000.

Imports, averaging 120,000 bbls. daily, show a decline of 32,000 bbls.

The small receipts last week are partly accounted for by the fact that receipts the preceding week were so heavy, the movement being subjected to sharp changes from week to week. Barring an unusually heavy movement during the remainder of May, receipts during this month will be smaller than those for April, based on daily averages.

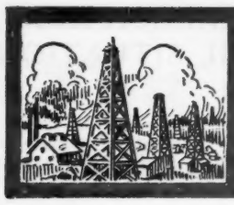
The following table shows daily average receipts of crude and refined oil by water at Atlantic ports from the Gulf and Pacific Coasts of the United States, and imports, for the last three weeks; also monthly record for the last 12 months (figures in barrels):

	Week Ended		
	May 13	May 6	Apr. 29
Gulf Coast	195,000	411,000	312,000
Pacific Coast	61,000	125,000	103,000
Imports	120,000	152,000	83,000
Total	376,000	688,000	504,000

Daily Averages by Months

1925—	Gulf	Pacific	Imports	Total
April	353,000	78,000	101,000	532,000
March	273,000	83,000	135,000	491,000
February	262,000	81,000	147,000	490,000
January	311,000	77,000	133,000	521,000
1924—				
December	306,000	83,000	85,000	474,000
November	246,000	80,000	150,000	476,000
October	246,000	120,000	88,000	454,000
September	270,000	104,000	101,000	475,000
August	310,000	127,000	84,000	521,000
July	318,000	85,000	114,000	517,000
June	302,000	133,000	136,000	571,000
May	276,000	122,000	144,000	542,000

The foregoing estimates are based on the carrying capacity of incoming oil-laden tankers.



REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

GASOLINE AND NAPHTHA

	May 19		May 12		May 5	
OKLAHOMA (Group 3)—						
50-52 450 end point (Naphtha)	.10¾	.11	.10½	.10¾	.09¾	.10
56-58 450 end point	.11	.11¼	.10¾	.11	.10	.10¼
58-60 437 end point (U. S. Motor)	.11½	.11¾	.11	.11¼	.10½	.10¾
60-62 400 end point	.12¾	.13	.12¼	.12½	.11½	.11¾
64-66 375 end point	.14	.14¼	.13¼	.13½	.12¾	.13
68-70 350 end point	.14½	.14¾	.13½	.13¾	.13	.13¼
KANSAS—						
58-60 437 end point (U. S. Motor)	.11½	.11¾	.11¼	.11½	.10½	.10¾
NORTH TEXAS—						
48-52 450 end point (Naphtha)	.10½	.10¾	.10¼	.10½	.09¾	.10
50-52 440 end point (Naphtha)	.10¾	.11	.10½	.10¾	.09¾	.10
56-58 450 end point	.11	.11¼	.10¾	.11	.10	.10¼
56-60 437 end point (U. S. Motor)	.11½	.11¾	.11	.11¼	.10¼	.10½
60-62 400 end point	.12¾	.13	.12¼	.12½	.11½	.11¾
64-66 390 end point	.13	.13¼	.13	.13¼	.12¼	.12½
64-66 375 end point	.14	.14¼	.13¼	.13½	.12¾	.13
68-70 360 end point	.14½	.14¾	.13½	.13¾	.13	.13¼
NORTH LOUISIANA—						
56-58 450 end point	.11¼	.11½	.10¾	.11	.10	.10¼
58-60 437 end point (U. S. Motor)	.11¾	.12	.11½		.10½	.10¾
60-62 400 end point	.13	.13¼	.12½	.12¾	.11½	.12
64-66 390 end point	.14	.14¼	.13¼		.12½	.12¾
64-66 375 end point	.14¼	.14½	.13½		.12¾	.13
ARKANSAS—						
58-60 450 end point	.11¼	.11½	.11¼	.11½	.10½	.10¾
58-60 437 end point (U. S. Motor)	.11¾	.12	.11½	.11¾	.10¾	.11
64-66 375 end point	.14	.14¼	.13¾	.14	.13	.13¼
ROCKY MOUNTAIN STATES—						
*58-60 437 end point (U. S. Motor)	.14¼	.14½	.14	.14¼	.12¾	.13
PENNSYLVANIA—						
52 Naphtha	.13		.12¾		.12¾	
54 Naphtha	.13		.12¾		.12¾	
56 Gasoline	.13½		.13		.13	
58 Gasoline	.13¾		.13		.13	
60 Gasoline	.14¾		.14		.14	
62 Gasoline	.15		.14½		.14½	
64 Gasoline	.15¼		.15		.15	
66 Gasoline	.15¾		.15		.15	
68-70 Gasoline	.17¼		.17¼		.17¼	
CALIFORNIA—						
54-56 437 end point (U. S. Motor) domestic	.11	.11½	.11	.11½	.11	.11½
CHICAGO DIST. (Based on Group 3)—						
50-52 450 end point (Naphtha)	.10½	.10¾	.10¼	.10½	.09¾	.10
56-58 450 end point	.10¾	.11	.10⅝	.10⅞	.10	.10⅛
58-60 437 end point (U. S. Motor)	.11½		.11	.11¼	.10¼	.10½
60-62 400 end point	.12¾	.13	.12¼	.12½	.11½	.11¾
64-66 375 end point	.13½	.14	.13¼	.13½	.12½	.12¾
68-70 360 end point	.14	.14¼	.13½	.13¾	.13	.13¼

NATURAL GASOLINE

	May 19		May 12		May 5	
OKLAHOMA (Group 3)—						
Grade Double A, 80-87.9, 375 e.p., rec. 90%	.12¾	.13	.11	.11¼	.10¼	.10½
Grade A, 72-79.9, 375 end point, rec. 90%	.12¾	.13	.11	.11¼	.10¼	.10½
Grade Double B, 84-92, 375 e.p., rec. 85%	.12¾	.13	.11		.09¾	.10
Grade B, 76-83.9, 375 end point, rec. 85%	.12¾	.13	.11		.09¾	.10
Grade C, 80-90, 375 end point, rec. 78%	.12¾	.13	.11		.09¾	
NORTH TEXAS—						
Grade Double A, 80-87.9, 375 e.p., rec. 90%	.12¾	.13	.11	.11¼	.10¼	.10½
Grade A, 72-79.9, 375 end point, rec. 90%	.12¾	.13	.11	.11¼	.10¼	.10½
Grade Double B, 84-92, 375 e.p., rec. 85%	.12¾	.13	.11		.09¾	.10
Grade B, 76-83.9, 375 end point, rec. 85%	.12¾	.13	.11		.09¾	.10
Grade C, 80-90, 375 end point, rec. 78%	.12¾	.13	.11		.09¾	
NORTH LOUISIANA—						
Grade A, 72-79.9, 375 end point, rec. 90%	.13¼	.13½	.12		.10½	
Grade B, 76-83.9, 375 end point, rec. 85%	.13¼	.13½	.11½		.10	
Grade C, 80-90, 375 end point, rec. 78%	.13¼	.13½	.11		.09½	
CALIFORNIA—						
68-80 absorption, 360-390 end point	.12½	.13	.12½	.13	.13½	.14
78-84 compression, 350 end point	.13½		.13½		.13½	
CHICAGO DIST. (Based on Group 3)—						
Grade Double A, 80-87.9, 375 e.p., rec. 90%	.12¼	.12½	.10¾	.11	.10¼	.10½
Grade A, 72-79.9, 375 end point, rec. 90%	.12¼	.12½	.10¾	.11	.10¼	.10½
Grade Double B, 84-92, 375 e.p., rec. 85%	.12	.12¼	.10½	.10¾	.09¾	.10
Grade B, 76-83.9, 375 end point, rec. 85%	.12	.12¼	.10½	.10¾	.09¾	.10
Grade C, 80-90, 375 end point, rec. 78%	.11¾	.12	.10½		.09¾	

MOTOR NATURAL GASOLINE (BLENDS)

	May 19		May 12		May 5
OKLAHOMA (Group 3)—					
60-62 450 end point	.11¼	.11¾	.10¾	.11¼	.10
64-66 437 end point	.11¼	.11¾	.10¾	.11¼	.10
68-70 430-435 end point	.11¼	.11¾	.10¾	.11	.10
NORTH TEXAS—					
58-60 440 end point	.11¼	.11¾	.10¾	.11	.10
58-60 450 end point	.11¼	.11¾	.10¾	.11	.10
PENNSYLVANIA—					
*60-62	.14		.13		.13
*64-66	.14		.13		.13
*66-68	.14		.13		.13
*68-70	.14		.13		.13
CHICAGO DIST. (Based on Group 3)—					
60-62 450 end point	.11	.11¼	.10¼	.10½	.09¾ .10
64-66 450 end point	.11	.11¼	.10¼	.10½	.10 .10¼
68-70 437 end point	.11¼	.11½	.10¼	.10½	.10 .10¼

*At Sistersville, W. Va.

BURNING OIL

	May 19		May 12		May 5	
KANSAS—						
41-43 water white Kerosene	.04⅜	.04⅝	.04⅜	.04⅝	.04⅜	.04⅝
OKLAHOMA (Group 3)—						
41-43 water white Kerosene	.04⅛	.04¼	.04⅛	.04¼	.04⅛	.04¼
42-44 water white Kerosene	.04⅜	.04½	.04½	.04¾	.04⅜	.04½
40-41 prime white Kerosene	.04	.04⅛	.04	.04⅛	.03¾	.04
NORTH LOUISIANA—						
40-41 prime white Kerosene	.04½	.04¾	.04	.04⅛	.03¾	.04
42-44 water white Kerosene	.04¾	.05	.04¾		.05	
ROCKY MOUNTAIN STATES—						
*40-42 water white Kerosene	.07⅛	.07¼	.07	.07¼	.07	.07½
NORTH TEXAS—						
41-43 water white Kerosene	.04	.04¼	.04⅛	.04¼	.04	.04¼
40-42 prime white Kerosene	.04	.04⅛	.04	.04⅛	.04¾	.05
41-43 prime white Kerosene	.04	.04⅛	.04⅛	.04¼	.04	.04¼
42-44 water white Kerosene	.04⅜	.04½	.04⅜	.04½	.04¼	.04¾
ARKANSAS—						
41-43 water white Kerosene	.04½	.04¾	.04½	.04¾	.04½	.04¾
43-44 water white Kerosene	.04¾	.05	.04¾	.05	.04¾	.05
PENNSYLVANIA—						
43 Kerosene prime white	.06⅜		.06⅜		.06⅜	
45 Kerosene water white	.06½		.06½		.06½	
46 Kerosene water white	.07¼		.07¼		.07¼	
47 Kerosene water white	.07⅜		.07⅜		.07⅜	
34 Neutral	.07½		.07½		.07½	
34 Sundebloomed Neutral	.08	.08¼	.08	.08¼	.08	.08¼
36 Miners' Neutral	.07½		.07½		.07½	
300 Mineral Seal	.07¾		.07½		.07½	
CALIFORNIA—						
40-42 water white (high burning test)	.07½	.08	.07½	.08	.07½	.08
Engine distillate, 43-45 445 end point	.08½	.09	.08½	.09	.08¼	.09
Engine distillate, 42-44 480 end point	.07¾	.08	.07¾	.08	.07⅝	.08
CHICAGO DIST. (Based on Group 3)—						
41-43 water white Kerosene	.04¼	.04½	.04⅛	.04¼	.04¼	.04½
42-44 water white Kerosene	.04½	.04⅝	.04¼	.04½	.04¼	.04½

*Colorado points.

FUEL OILS

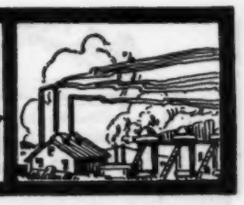
	May 19		May 12		May 5	
KANSAS—						
24-26 Fuel Oil	.92½	.97½	.90	.95	.95	1.00
32-36 Gas Oil	.03⅛	.03¼	.03⅛	.03¼	.03⅛	.04⅛
38-40 Distillate	.03¼	.03½	.04¼	.03½	.03¼	.03⅝
OKLAHOMA (Group 3)—						
Below 22 Fuel Oil (sellers' cars)	.90		.85	.87½	.90	
22-26 Fuel Oil (sellers' cars)	.90		.87½	.90	.90	.95
24-26 Fuel Oil (buyers' cars)	.90	.95	.90	.92½	.90	.95
24-26 Fuel Oil (sellers' cars)	.90	.95	.90	.92½	.90	.95
28-30 Fuel Oil (sellers' cars)	1.00	1.02½	.92½	.97½	1.00	
32-36 Gas Oil	.02⅞	.03	.02⅞	.03⅛	.02⅝	.02⅞
36-38 Distillate	.03	.03⅛	.03	.03¼	.03	.03⅛
38-40 Straw distillate	.03	.03⅛	.03	.03⅛	.03	.03⅛
NORTH TEXAS—						
24-26 Fuel Oil (sellers' cars)	.90	.95	.90	.95	.95	1.00
26-30 Fuel Oil	.97½	1.02½	.95	1.00	1.00	
32-36 Gas Oil	.02¾	.03	.02¾	.02⅞	.02⅝	.02⅞
36-38 Distillate	.03	.03⅛	.03	.03⅛	.03	.03⅛
38-40 Straw distillate	.03⅛	.03¼	.03⅛	.03¼	.03⅛	.03⅛
NORTH LOUISIANA—						
18-20 Fuel Oil	.95	1.00	.90		.90	1.00
32-36 Gas Oil	.03¼	.03½	.03⅜		.03⅛	.03½
ARKANSAS—						
38-40 Distillate	.03¼	.03⅜	.03¼	.03⅜	.03¼	.03⅜
32-36 Gas Oil	.03⅛	.03¼	.03⅛	.03¼	.03⅛	.03½
22-26 Refinery Fuel Oil	.90	.95	.90	.95	.90	.95
GULF COAST (South Texas)—						
Gas Oil	.04¾	.05	.04¾	.05	.04¾	.05
Fuel Oil	1.45	1.50	1.45	1.50	1.45	1.50
PENNSYLVANIA—						
30-34 Fuel Oil	.04½		.04½		.04½	
36-40 Fuel Oil	.05⅝		.05⅝		.05½	
CALIFORNIA—						
33-36 Distillate	.04¾	.05	.04¾	.05	.04¾	.05
27-33 Distillate	.04	.04½	.04	.04½	.04	.04½
15-20 Fuel Oil (at tide water)	1.50	1.55	1.60	1.65	1.60	1.65
CHICAGO DIST. (Based on Group 3)—						
24-26 Fuel Oil (sellers cars, Group 3)	.92½	.95	.90	.95	.92½	.97½
18-22 (El Dorado)	.87½	.92½	.85	.90	.90	.95
18-20 (Smackover)	.85	.90	.80	.85	.75	.80
32-36 Gas Oil	.02⅞	.03	.02¾	.03	.02⅝	.03⅛
36-38 Distillate	.03	.03⅛	.03	.03⅛	.03⅛	
38-40 Straw distillate	.03⅛	.03¼	.03⅛	.03¼	.03¼	

LUBRICATING OILS AND WAX

	May 19		May 12		May 5	
OKLAHOMA (Group 3)—						
Neutrals:						
70-80 vis., 2½ color, 20-25 cold test	.07	.07½	.07	.07½	.07	.07½
100 vis., 2 color, 20-25 cold test	.08½	.09	.08½	.09	.08½	.09
100 vis., 3 color, 20-25 cold test	.08	.08½	.08	.08½	.08	.08½
150 vis., 3 color, 20-25 cold test	.10½	.11	.10½	.11	.10¼	.11
150 vis., 4 color, 20-25 cold test	.10¼	.10¾	.10¼	.10¼	.10¼	.10¾
180 vis., 4 color, 23-28 cold test	.10¾	.11¼	.10¾	.11¼	.10¾	.11¼
180 vis., 3 color, 23-28 cold test	.11	.11½	.11	.11½	.11	.11½
200 vis., 3 color, 23-28 cold test	.12	.12½	.12	.12½	.12	.12½
200 vis., 4 color, 23-28 cold test	.11¾	.12¼	.11¾	.12¼	.11¾	.12¾
220 vis., 3 color, 25-30 cold test	.14½	.15	.14½	.15	.14½	.15
220 vis., 4 color, 25-30 cold test	.14	.14½	.14	.14½	.14	.14½
240 vis., 3 color, 25-30 cold test	.16	.16½	.16	.16½	.16	.16½
240 vis., 4 color, 25-30 cold test	.15½	.16	.15½	.16	.15½	.16
280 vis., 3 color, 25-30 cold test	.17½	.18	.17½	.18	.17½	.18
280 vis., 4 color, 25-30 cold test	.16½	.17	.16½	.17	.16½	.17
Red Neutrals:						
180 vis., 5 color, 23-28 cold test	.10¼	.11	.10½	.11	.10¼	.11
180 vis., 6 color, 23-28 cold test	.10	.10½	.10	.10½	.10	.10½
200 vis., 5 color, 23-28 cold test	.11½	.12	.11½	.12	.11½	.12
200 vis., 6 color, 23-28 cold test	.11	.11½	.11	.11½	.11	.11½
220 vis., 5 color, 25-30 cold test	.13½	.14	.13½	.14	.13½	.14
220 vis., 6 color, 25-30 cold test	.13	.13½	.13	.13½	.13	.13½
240 vis., 5 color, 25-30 cold test	.15	.15½	.15	.15½	.15	.15½
240 vis., 6 color, 25-30 cold test	.14½	.15	.14½	.15	.14½	.15

REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields



280 vis., 5 color, 25-30 cold test	.15½	.16	.15½	.16	.15½	.16
Cylinder Stocks—						
180-200 vis., S. R. green, 40-45 cold test	.08	.09½	.09½	.10	.09½	.10
190-200 vis., S. R. green, 40-45 cold test	.08	.08½	.08½	.09	.08½	.09
170-190 dark green, 40-45 cold test	.06½	.07	.07½		.07½	
190-200 vis. @ 210 "D" Bright Stock	.36		.36		.36	
200-210 vis. @ 210 "E" Bright Stock	.31		.31		.31	
150 vis. @ 210 "D" Bright Stock	.32		.32		.32	
150 vis. @ 210 "E" Bright Stock	.28		.28		.28	
Waxes:						
124-126 White Crude Scale Wax	.05	.05¼	.04¾	.05	.04¾	.05
PENNSYLVANIA—						
150, 3 color	.19	.19¼	.19½		.20	
180, 3 color	.20¾		.21¾		.21¾	
200, 3 color	.22¾	.23	.23¾		.23¾	
220, 3 color	.25		.25½		.25½	
600, steam refined	.16½	.16¾	.18		.17	
635, steam refined	.22½		.22½		.22½	
650, steam refined	.24½	.24¾	.25		.23½	.24
600, Pennsylvania flash	.29	.29¼	.29		.33	
630, Pennsylvania flash	.37	.37½	.38		.38	
*550, E filtered	.22¼	.22½	.23		.23	
†600, E filtered	.24	.24¼	.25½		.25½	
600, E filtered	.23	.23¼	.23		.23¾	
600, D filtered	.29	.29¼	.29		.30½	
550, E filtered	.22	.22¼	.22		.22½	
550, D filtered	.24½	.25	.25		.25½	
Pennsylvania Bright Stock	.37	.37¼	.37½		.36½	.37
122-124 White Crude Scale Wax	.05¼		.04⅞		.05	
†124-126 White Crude Scale Wax	.05⅝		.05		.05⅛	

*At Warren, Pa. †At New York City.

GULF COAST (South Texas)—						
Zero Black	.06	.07	.06	.07	.06	.07
No. 2 color, 100 vis., pale oil	.09½	.10½	.09½	.10½	.09½	.10½
No. 2 color, 150 vis., pale oil	.11	.12	.11	.12	.11	.12
No. 3 color, 200 vis., pale oil	.14	.15	.14	.15	.14	.15
No. 3 color, 300 vis., pale oil	.16	.17	.16	.17	.16	.17
No. 3½ color, 500 vis., pale oil	.18	.19	.18	.19	.18	.19
No. 3½ color, 750 vis., pale oil	.23½	.24½	.23½	.24½	.23½	.24½
No. 4½ color, 1200 vis., pale oil	.26½	.27½	.26½	.27½	.26½	.27½
No. 4 color, 2000 vis., pale oil	.30	.31	.30	.31	.30	.31
No. 2 plus color, 150 vis., pale filtered	.21½		.21½		.21½	
No. 2 plus color, 200 vis., pale filtered	.23		.23		.23	
No. 2½ minus color, 300 vis., pale filtered	.26½		.26½		.26½	
No. 2½ color, 500 vis., pale filtered	.30½		.30½		.30½	
No. 2½ color, 800 vis., filtered	.40½		.40½		.40½	
No. 5 to 6 color, 200 vis., red oil	.12½	.13½	.12½	.13½	.12½	.13½
No. 5 to 6 color, 300 vis., red oil	.14½	.15½	.14½	.15½	.14½	.15½
No. 5 to 6 color, 500 vis., red oil	.16½	.17½	.16½	.17½	.16½	.17½
No. 5 to 6 color, 750 vis., red oil	.21½	.22½	.21½	.22½	.21½	.22½
CALIFORNIA—						
130 pale, 2½-3 color	.12	.12½	.12	.12½	.12	.12½
200 vis., 2½-3 color	.15½	.16	.15½	.16	.15½	.16
300 vis., 3 -3½ color	.17	.17½	.17	.17½	.17	.17½
350 vis., 3½-4 color	.18½	.19	.18½	.19	.18½	.19
400 vis., 3½-4 color	.20	.20½	.20	.20½	.20	.20½
Red Neutrals:						
300 vis., 4½-5 color	.14	.14½	.14	.14½	.14	.14½
300 vis., 5 -6 color	.15	.15½	.15	.15½	.15	.15½
400 vis., 5 -6 color	.17	.17½	.17	.17½	.17	.17½
500 vis., 4½-5 color	.20	.21	.20	.21	.20	.21
500 vis., 6 -6½ color	.18	.19	.18	.19	.18	.19
600 vis., 6½ plus color	.19	.19½	.19	.19½	.19	.19½

Note: Bright stocks are not manufactured commercially on the Pacific Coast.

NEW YORK DOMESTIC MARKET

Bayonne Refinery Prices:	May 19	May 12	May 5
U. S. Motor Gasoline, 58-60 437	.16	.15	.15
*Bunker Oil, 14-16 Be.	1.75	1.75	1.75
Diesel Oil, 28-30 Be.	2.30	2.30	2.30
Furnace Oil, New York City	.10	.10	.10
Gas Oil, 32-36 Be.	.06¾	.06¾	.06¾
41-43 Kerosene prime white	.07	.07	.07

*Lighterage, 6.5c a barrel extra.

NEW YORK EXPORT PRICES

	May 19	May 12	May 5
Motor Gasoline:			
58-60 Be. gravity, in cases	.29.65	.29.15	.29.15
U. S. Navy, in bulk	.15½	.15	.15
Naphtha:			
60° F., 59 61 Be. gravity, in bulk	.18¼	.17¾	.17¾
60° F., 62-63 Be. gravity, in bulk	.19½	.19	.19
60° F., 66 68 Be. gravity, in bulk	.20½	.20½	.20½
Kerosene:			
Standard white, 40-42 Be. grav., in bulk	.06½	.06½	.06½
Standard white, 40-42 Be. grav., in barrels	.13½	.13½	.13½
Standard white, 40-42 Be. grav., in cases	.16.9	.16.9	.16.9
Water white, 42-44 Be. grav., in bulk	.07½	.07½	.07½
Water white, 42-44 Be. grav., in barrels	.14½	.14½	.14½
Water white, 42-44 Be. grav., in cases	.17.9	.17.9	.17.9
†Lubricating Oils:			
Cylinder Stock, extra filtered, 600, barrels	.45	.45	.45
Cylinder Stock, light filtered, 600, barrels	.40	.40	.40
No. 1 white Neutral, .878 spec. grav.	.44	.44	.44
No. 5 Bright Stock, .897 spec. grav.	.47	.47	.47
Special "A" red oil, .897 spec. grav., 170 vis.	.20	.20	.20
No. 2 red oil, .903 spec. grav., 212 vis.	.21	.21	.21
No. 1 red oil, .905 spec. grav., 265 vis.	.22	.22	.22
Polar red oil, .906 spec. grav., 295 vis.	.23	.23	.23
Pale oil, "25", .899 spec. grav.	.21½	.21½	.21½
Pale oil, "28", 892 spec. grav.	.17	.17	.17
Paraffin Wax:			
120-122 a.m.p., per lb.	.05⅞	.06¼	.06¼
125-127 a.m.p., per lb.	.06	.06⅜	.06⅜
130-132 a.m.p., per lb.	.06½	.06¾	.06¾
135-137 a.m.p., per lb.	.07½	.07½	.07½
Petrolatum, in bbls., carload lots, per lb.:			
Amber	.03¾	.03¾	
Light amber	.04	.04	
Cream	.07¼	.07¼	

†All lub prices in barrels.

LOS ANGELES EXPORT PRICES

	May 19	May 12	May 5
Kerosene water white	.05½ .06	.05½ .06	.05½ .06
U. S. Motor gasoline, 54-56 437 end point	.10½ .11	.10½ .11	.10½ .11

CRUDE OIL PRICES

Arkansas and North Louisiana

Caddo, 38° and above	$2.05
35° to 37.9°	1.95
32° to 34.9°	1.85
Below 32°	1.70
Homer, 35° and above	1.80
32° to 34.9°	1.70
31° to 32.9°	1.60
Below 31°	1.45
Haynesville, 33° and above	1.70
Below 33°	1.60
El Dorado, 33° and above	1.70
Below 33°	1.60
Bull Bayou, 38° and above	1.85
35° to 37.9°	1.70
32° to 34.9°	1.55
Cotton Valley	1.00
De Soto	1.90
Crichton	1.70
Bellevue	1.75
*Stephen, Ark.:	
Below 26°	1.25
26° and above	1.45
*Posted by Atlantic Oil Producing Co.	
†Smackover:	
(Standard Oil Co. of Louisiana)	
Below 24°	.70
24° to 24.9°	1.10
25° to 25.9°	1.20
26° to 26.9°	1.25
27° and above	1.30
(Posted by Texas Co.)	
Below 24°	.70
24° to 25.9°	1.00
26° and above	1.30

Wyoming and Montana

Rock Creek (Wyo.)	2.00
Salt Creek	1.60
Big Muddy	2.00
Mule Creek	1.50
Grass Creek (light)	2.15
Elk Basin	2.15
Lance Creek	2.15
Osage	2.15
Cat Creek (Mont.)	2.15
Sunburst (Mont.)	1.40
Lost Soldier	1.35
Greybull and Torchlight	2.00
Hamilton Dome	1.60
Hogback, N. Mex.	2.20
Lost Soldier and Lander based on contracts.	

Oklahoma, Kansas North and Central Texas

Prairie Oil & Gas Co. and other major purchasing companies, except as noted:

Below 30°	1.35
30° to 32.9°	1.55
33° to 35.9°	1.80
36° to 38.9°	2.00
39° to 41.9°	2.25
42° and above	2.35
Sinclair Crude Oil Purchasing Co.—	
39° to 41.5°	2.25
41.6° and above	2.35
Magnolia Petroleum Co.:	
Below 28°	1.00
28° to 30.9°	1.35
31° to 32.9°	1.55
Corsicana light	2.00
Corsicana heavy	1.00
Mexia and Wortham	2.00

California

14° to 19.9°	1.25
20° to 20.9°	1.27
21° to 21.9°	1.30
22° to 22.9°	1.33
23° to 23.9°	1.36
24° to 24.9°	1.40
25° to 25.9°	1.44
26° to 26.9°	1.48
27° to 27.9°	1.52
28° to 28.9°	1.56
29° to 29.9°	1.60
30° to 30.9°	1.64
31° to 31.9°	1.68
32° to 32.9°	1.72
33° to 33.9°	1.76
34° to 34.9°	1.80
35° and above	1.85
Rosecrans-Athens Field, only:	
Below 35.9° gravity, same as other fields.	
36° to 36.9°	1.92
37° to 37.9°	2.00
38° to 38.9°	2.06
39° to 39.9°	2.16
40° to 40.9°	2.24
41° to 41.9°	2.32
42° and above	2.40

Humble Oil & Refining Co.

Powell, Currie, Richland	2.00
Mexia and Wortham	2.00
Moran crude:	
Below 30° gravity	1.35
30° to 32.9°	1.55
33° to 35.9°	1.80
36° and above	2.00

Ranger and North Texas, same as Prairie.

Gulf Coast

Grade A	1.75
Grade B	1.50
Luling (based on contracts 90c and	1.15
Laredo (Magnolia Petroleum Co.)	.85
Rockdale-Minerva (Milam County)	1.25
Calliham (Live Oak-McMullen)	1.15
Webb, Jim Hogg, Zapata	1.00
*High Island	1.20
*Posted by Sun Oil Co.	

***Somerset**

Below 30°	1.25
30° to 32.9°	1.35
33° to 35.9°	1.80
36° to 38.9°	1.95
39° to 41.9°	2.10
42° and above	2.35

*Posted by Grayburg Oil Co.

Eastern States

Penna Grade Oil in New York Transit Lines	3.40
Bradford District Oil in National Transit Lines	3.40
Penna Grade Oil in National Transit Lines	3.30
Penna Grade Oil in Southwest Pa. Pipe Lines	3.30
Penna Grade Oil in Eureka Pipe Line Lines	3.25
Penna Grade Oil in Buckeye Pipe Lines	3.15
Cabell Grade Oil in Eureka Pipe Line Lines	2.05
Corning Grade Oil in Buckeye Pipe Line Lines	1.95
Somerset Medium Oil in Cumberland Pipe Line Lines	2.15
Somerset Light Oil in Cumberland Pipe Line Lines	2.30
Ragland Grade Oil in Cumberland Pipe Line Lines	1.20
Gaines	3.15
Lima	2.23
Wooster	2.15
Illinois	2.02
Indiana	2.03
Princeton	2.02
Plymouth	1.55
Waterloo	1.10
†Oil Springs, Canada	2.95
†Petrolia, Canada	2.88
*Western Kentucky, 36° and above	2.05
*Western Kentucky, 33° to 35.9°	1.95
*Western Kentucky, 32.9° and below	1.85
Cumberland, Barren and Monroe Counties (Kentucky), (Paragon Development Co.)	2.30

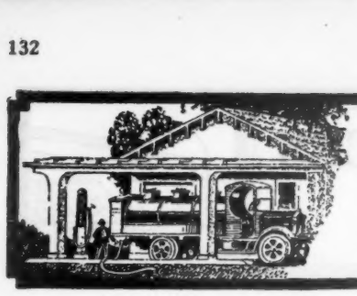
†Plus Government bounty of 26½c.

*Prices for Warren, Allen, Hancock, Simpson and Ohio Counties by Indian Refining Co.

Mexican Crude

*Tuxpam (f.o.b. Mexican ports)	1.20
†Panuco (f.o.b. Mexican ports)	1.10
Tuxpam (New York)	1.75
Panuco (New York)	1.54

*Plus 30.00c tax.. 19.00 tax.



TANK WAGON MARKETS

Tank Wagon quotations for gasoline and kerosene in United States as furnished by the large marketing concerns May 19.

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)

Main Service Station Price

	Gasoline Tank wagon	Service station	Inclds tax of	Kero Tank wagon
Chicago Dist—				
†100 gals or more	17.0	20.0	..	12.0

Tank wagon prices on April 19, 1922; g. up 1½c; May 8, g. up 1c; June 27, both up 1c; July 19, g. down 2c, k. down 1c; Oct. 10, g. down 2c; Oct. 21, g. down 1c; Feb. 6, 1923, g. up 1c; Feb. 20, g. up 1c; Aug. 14, g. down 6.6c; Oct. 4, k. down 1½c; Nov. 10, g. down 1.4c; Dec. 29, g. up 2c; Jan. 12, 1924, g. up 2c, k. up 1c; Feb. 5, g. up 2c, k. 1c; July 18, g. down 1c, July 30, g. and k. down 1c; Sept. 12, g. down 2c; Jan. 23, 1925, g. up 1c; Jan. 26, g. up 1c; Jan. 31, g. up 1c; Feb. 12, g. up 2c, k. up 1c; April 19, g. down 1c.

Decatur, Ill.	18.2	20.2	..	12.5
East St. Louis	17.1	19.35	..	11.6
Joliet	18.4	20.4	..	12.7
Peoria	18.2	20.2	..	12.5
Quincy	18.2	20.2	..	12.3
Davenport, Ia.	20.5	22.5	2.0	12.9
Des Moines	20.5	22.5	2.0	12.9
Keokuk	20.5	22.5	2.0	12.9
Sioux City	20.0	22.0	2.0	12.5
Duluth, Minn.	21.5	23.5	2.0	13.6
Minneapolis	21.2	23.2	2.0	13.6
La Crosse, Wis.	21.2	23.2	2.0	13.4
Milwaukee	20.1	22.1	2.0	12.3
Madison	20.3	22.3	2.0	12.5
Detroit, Mich.	20.8	22.8	2.0	13.2
Grand Rapids	20.7	22.7	2.0	13.1
Saginaw	20.9	22.9	2.0	13.3
Evansville, Ind.	21.0	23.0	3.0	12.5
Fort Wayne	21.4	23.4	3.0	12.9
Indianapolis	21.2	23.2	3.0	12.7
South Bend	21.4	23.4	3.0	12.9
Fargo N. D.	20.9	22.9	1.0	15.6
Huron, S. D.	18.0	20.0	3.0	14.1
Sioux Falls	20.5	22.5	3.0	13.6
*Kansas City, Mo.	20.9	22.9	3.0	11.3
*Springfield	20.8	22.8	3.0	12.2
*St. Louis	19.6	21.9	2.5	12.0
*St. Joseph	20.0	22.0	2.5	11.9
Wichita, Kans.	19.8	21.8	3.0	10.8
Bartlesville, Okla	19.9	21.9	3.0	10.9

*State tax is 2c. Remainder is city tax.
†Tank wagon price on less than 100 gallons, 18.0

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline Tank wagon	Service station	Incldg tax of	Kero Tank wagon
Newark, N. J.	18.0	20.0	...	12.5
Atlantic City	18.0	....	....	12.5
Annapolis, Md.	21.0	....	2.0	11.5
Baltimore	20.0	22.0	2.0	11.0
Cumberland	21.0	23.0	2.0	12.0
Washington, D. C	20.0	22.0	2.0	12.0
Norfolk, Va.	22.0	24.0	3.0	13.0
Petersburg	22.0	....	3.0	13.0
Danville	22.0	....	3.0	13.0
Richmond	22.0	24.0	3.0	13.0
Roanoke	22.0	24.0	3.0	13.0
Keyser, W. Va.	21.0	....	2.0	13.0
Charleston	20.0	22.0	2.0	13.0
Parkersburg	20.0	22.0	2.0	13.0
Wheeling	20.0	22.0	2.0	13.0
Charlotte, N. C.	23.0	25.5	4.0	14.0
Hickory	23.0	....	4.0	14.0
Mt. Airy	23.0	....	4.0	14.0
Salisbury	23.0	....	4.0	14.0
Charleston, S. C.	24.5	27.0	5.0	14.5
Columbia	24.5	27.0	5.0	14.5

PENNSYLVANIA-DELAWARE AND PART NEW ENGLAND

Atlantic Refining Co.

	Gasoline Tank wagon	Service station	Incldg tax of	Kero Tank wagon
*Pittsburgh, Pa.	19.0	24.0	..	14.0
*Philadelphia	19.0	24.0	..	14.0
*Scranton	19.0	24.0	..	14.0
*Allentown	19.0	24.0	..	14.0
*Altoona	19.0	24.0	..	14.0
*Erie	19.0	24.0	..	14.0
Dover, Del.	21.0	24.0	2.0	14.0
Wilmington	21.0	24.0	2.0	14.0
Springfield, Mass.	20.0	24.0	..	13.0
Worcester, Mass.	20.0	24.0	..	13.0
Boston	20.0	24.0	..	11.0
Providence, R. I.	20.0	24.0	..	13.0
Hartford, Conn.	21.0	25.0	1.0	13.0
New Haven, Conn.	21.0	25.0	1.0	13.0

*Pennsylvania tax of 2 cents is collected by the dealer and paid by him direct to the State.

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline Tank wagon	Service station	Incldg tax of	Kero. Tank wagon
New Orleans	19.5	21.5	2.0	11.0
Alexandria	19.5	21.5	2.0	12.0
Baton Rouge	18.0	20.0	2.0	10.5
Lake Charles	19.5	21.5	2.0	12.0
Shreveport	19.5	21.5	2.0	11.0
Memphis, Tenn.	20.0	22.0	3.0	13.0
Chattanooga	21.5	23.5	3.0	13.5
Knoxville	22.5	24.5	3.0	14.0
Nashville	21.5	23.5	3.0	12.5
Bristol	22.0	24.0	3.0	12.5
Little Rock, Ark.	22.0	24.0	4.0	10.0

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline Tank wagon	Service station	Incldg tax of	Kero. Tank wagon
Atlanta, Ga.	23.0	26.0	3.0	13.0
Augusta	23.0	26.0	3.0	15.0
Macon	23.0	26.0	3.0	14.5
Savannah	21.0	24.0	3.0	13.0
Birmingham, Ala	21.0	24.0	2.0	14.5
Mobile	20.0	23.0	2.0	12.5
*Montgomery	22.0	26.0	3.0	15.5
Clarksdale, Miss.	21.0	24.0	3.0	12.0
Jackson	21.0	24.0	3.0	10.0
Natchez	20.5	23.5	3.0	11.5
Vicksburg	20.5	23.5	3.0	11.5
Jacksonville, Fla.	21.0	24.0	3.0	13.0
Miami	23.0	26.0	3.0	14.5
Pensacola	21.0	24.0	3.0	13.5
Tampa	21.0	24.0	3.0	13.0
Lexington, Ky.	21.0	24.0	3.0	14.0
Covington	19.0	22.0	3.0	14.0
Louisville	21.0	23.0	3.0	12.0

*In addition to the State tax of 2 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and ½ cent on kerosene.

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.

	Gasoline Tank wagon	Service station	Incldg tax of	Kero Tank wagon
Dallas, Texas	17.0	21.0	1.0	12.0
Fort Worth	17.0	21.0	1.0	12.0
Houston	17.0	21.0	1.0	12.0
San Antonio	15.0	18.0	1.0	12.0
El Paso	18.0	21.0	1.0	13.0
Muskogee, Okla.	19.5	22.5	3.0	12.0
Oklahoma City	19.5	22.5	3.0	12.0
Tulsa	18.5	21.5	3.0	11.0
Ft. Smith, Ark.	22.0	26.0	4.0	12.0
Little Rock	22.0	24.0	4.0	10.0
Texarkana	19.0	22.0	1.0	12.0

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline Tank wagon	Service station	Incldg tax of	Kero Tank wagon
Casper, Wyo.	21.5	23.5	2.5	13.0
Cheyenne	23.0	25.0	2.5	14.5
Albuquerque, N. M.	26.5	29.5	3.0	16.5
Salt Lake, Utah	24.0	26.0	3.5	18.0
Denver, Colo.	21.0	23.0	2.0	14.5
Pueblo	21.0	23.0	2.0	14.5
Butte, Mont.	23.0	25.0	2.0	16.0
Helena	25.0	27.0	2.0	17.0
Boise, Idaho	24.5	26.5	3.0	20.0

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline Tank wagon	Service station	Incldg tax of	Kero Tank wagon
Albany, N. Y.	21.0	....	....	13.0
*New York	20.0	....	....	13.0
Buffalo	21.0	....	....	12.0
Rochester	21.0	....	....	12.0
Syracuse	21.0	....	....	12.0
Boston, Mass.	21.0	....	....	13.0
Providence, R. I.	21.0	....	....	13.0
Augusta, Me.	22.0	....	1.0	13.0
Manchester, N. H.	23.0	....	2.0	13.0
Burlington, Vt.	22.0	....	1.0	13.0

*Price in steel barrels.
Note: Standard Oil Co. of New York does not generally quote service station price in its territory. In most cases the service station price is 2 or 3 cents higher than tank wagon price.

PACIFIC COAST DISTRICT

Standard Oil Co. of California

	Gasoline Tank wagon	Service station	Incldg tax of	Kero Tank wagon
San Francisco	17.0	20.0	2.0	16.5
Los Angeles	16.5	18.5	2.0	16.5
Fresno	17.5	20.5	2.0	19.5
Reno, Nev.	20.5	22.5	2.0	19.0
Portland, Ore.	18.0	21.0	2.0	16.5
Seattle, Wash.	17.0	20.0	2.0	16.5
Tacoma	17.0	20.0	2.0	16.5
Spokane	21.0	24.0	2.0	20.5
Phoenix, Ariz.	23.0	26.0	3.0	21.5

OHIO

Standard Oil Co. (Ohio)

	Gasoline Tank wagon	Service station	Incldg tax of	Kero Tank wagon
All Ohio points	20.5	22.5	2.0	15.0

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline Tank wagon	Service station	Incldg tax of	Kero Tank wagon
Omaha	18.0	20.0	2.0	12.5
Crawford	21.0	....	2.0	13.25
McCook	21.75	23.75	2.0	14.0
Norfolk	20.75	22.75	2.0	13.0
North Platte	21.75	23.75	2.0	13.75
Scotts Bluff	21.25	23.25	2.0	13.25

TANK WAGON CHANGES

May 2.—Magnolia Petroleum Co. advanced gasoline tank wagon and service station prices 1 cent at Muskogee.

May 13.—Standard Oil Co. of New Jersey advanced the tank wagon and service station price of gasoline throughout its territory 1 cent. Standard Oil Co. of Louisiana advanced the tank wagon and service station price of gasoline 1 cent throughout its territory.

May 14.—Standard Oil Co. of New York advanced the tank wagon and service station price of gasoline 2 cents in New York City and 1 cent a gallon throughout the remainder of its territory.

May 15.—Magnolia Petroleum Co. advanced gasoline service station price 1 cent at Little Rock, Ark.

CRUDE PRICE CHANGES

May 18.—Standard Oil Co. of Louisiana advanced the price of Smackover crude below 24 gravity 10 cents a barrel. The advance was followed by The Texas Co. and the Atlantic Refining Co.

Following are the changes in gasoline taxes since February 1:

Tennessee, 2 to 3 cents, effective February 9; North Carolina, 3 to 4 cents. March 4; South Dakota, 2 to 3 cents, March 10; Idaho, 2 to 3 cents, March 11; New Mexico, 1 to 3 cents, March 18; South Carolina, 3 to 5 cents, March 24; Oklahoma 2.5 to 3 cents, March 25; Wisconsin, 2 cents, April 1; Nebraska ,2 cents, April 1; Utah, 2.5 to 3.5 cents, April 1; Indiana, 2 to 3 cents, April 1; Wyoming, 1 to 2.5 cents, April 1; Iowa, 2 cents, April 16; Ohio, 2 cents, April 18; Kansas, 2 cents, May 1; Minnesota, 2 cents, May 1.

GENERAL IMPROVEMENT IN CALIFORNIA MARKET

LOS ANGELES, Cal., May 16.—The general improvement in oil marketing on the Pacific Coast which began to make itself felt a week or so ago is continuing. Gasoline is moving in very satisfactory volume and at fair prices. Gasoline prices have not changed in months. This applies both to the posted open market price and to the prices at which various grades of marketable gasoline are being sold by the refineries. The smaller refineries in the Los Angeles area are, with few exceptions, running at full capacity. Their available supplies of crude have been enhanced greatly by the bringing in of very high grade production in considerable quantities in the Athens-Rosecrans Field, part of which is within the city limits of Los Angeles. A particularly strong factor contributing to the availability of this crude for the small refineries is that much of it is produced by small independent operators drilling one or two well leases in the Athens and Howard Townsites.

The export trade in gasoline is showing a tendency to increase. It has been at low ebb for more than a month.

The one unfavorable feature in the California market is the possibility, and even probability, that the Governor may sign the Breed Bill increasing the gasoline tax from 2 cents to 3 cents per gallon. This bill passed the State Legislature by a very close margin and was bitterly contested. When it went to Governor Richardson, he publicly stated he would investigate the situation himself before acting on the measure as public opinion seemed to be strongly divided. From all indications it is purely a sectional difference. As the greater part of the gasoline is sold in southern California, that end of the State would produce the largest revenue. Most of the roads are needed in northern California, which is in favor of the bill while the south is against it.

Natural gasoline prices for some weeks have been holding steady at 12½ cents to 13 cents spot.

Kerosene is featureless, both as to price and movement. In consequential quantities of cased kerosene continue to move to the Oriental markets. The local demand is poor.

There is a slight stiffening in the stove oil, furnace distillate and gas oil prices. While enormous quantities of these intermediate distillates are manufactured, several large producers are cutting practically all of their production back into the heavy residuum for blending it with heavy fuel crude in order to reduce the viscosity of the latter. This tends to remove a large portion of the oversupply from the market.

Lubricants continue to move in sympathy with gasoline and increased gasoline sales find a direct reflection in larger sales of lubricating oils and greases. Prices of these products are quite firm as there are only four or five manufacturers of lubricants on the Pacific Coast and competition is very fair.

CALIFORNIA RECEIPTS AND PETROLEUM IMPORTS

Receipts of California crude and refined oils at Atlantic and Gulf Coast ports for the week ended May 9 totaled 736,000 bbls., a daily average of 105,142 bbls. against 382,000 bbls., a daily average of 54,571 bbls. for the week ended May 2 and a daily average of 93,714 bbls. for the four weeks ended May 9.

	Week Ended May 9
At Atlantic Coast Ports—	
Baltimore	95,000
Boston	70,000
New York	243,000
Philadelphia	230,000
Others	70,000
Total	736,000
Daily Average	105,142
At Gulf Coast Ports—	
Total Atlantic and Gulf Coast Ports	736,000
Daily Average	105,000
Daily Average four weeks ended	93,714

According to figures collected by the American Petroleum Institute imports of crude and refined oils at the principal ports for the week ended May 9 totaled 1,857,000 bbls., a daily average of 220,714 bbls., compared with 1,321,000 bbls., a daily average of 188,715 bbls. for the week ended May 2 and a daily average of 214,893 bbls. for the four weeks ended May 9.

	Week Ended May 9
At Atlantic Coast Ports—	
Baltimore	195,000
Boston	135,000
New York	473,000
Philadelphia	130,000
Others	127,000
Total	1,060,000
Daily average	169,428
At Gulf Coast Ports—	
Galveston District	155,000
New Orleans and Baton Rouge	225,000
Port Arthur and Sabine District	113,000
Tampa	48,000
Total	541,000
Daily Average	77,285
At All United States Ports—	
Total	1,587,000
Daily Average	226,714
Daily Average four weeks ended	214,893

COASTAL UNCHANGED BUT TREND STEADIER

HOUSTON, Texas, May 16.—Coastal refiners are more optimistic, with some cold test lubricating prices showing some strength, although the nominal quotations are unchanged. The refiners had been shading prices in anticipation of a cut in credit balance prices for Gulf Coast crude and the big flush production of low gravity crude in the Smackover Field. The market for fuel oil is steadier. One plant is out of the market, having sold up its capacity for the balance of the year.

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REG U.S. PAT. OFF.

Less Production From More Pools

Thirty One Major Fields in March Produced 65 Per Cent of All the Oil, But Only Heavy Crudes Showed Increase

By James McIntyre

The number of major pools in the United States increased by two in March. These were Ventura-Newhall and Rosecrans, both in California. The 31 major pools produced in March a total of 1,263,346 bbls. a day, or 65 per cent of the total of 1,944.837 bbls. produced in the United States as a daily average for that month.

The major pools in January showed an average daily production per weill of 45.6 bbls., while in March the average daily production had fallen to 39.3 notwithstanding that the Rosecrans Field in California, one of the new major pools, averaged 426.9 bbls. per day per well.

The average gravity of the crude produced in the major fields in March was 30 degrees. The oil ranges from 13 degrees to 42 degrees.

Only one new field will enter the major pool class in the report for April, that being the Big Lake Field in Reagan County, Texas, which was producing 18,000 bbls. a day at the close of April and which is expected to climb steadily. The South Liberty Pool, in the Gulf Coast Field, in Texas, was also a 15,000-bbl.-a-day field at the close of April, but its future did not look very bright because of salt water conditions which have pretty well defined the limits of the pool.

Average Production Declines

Comparing March production with that of January of this year a study of the accompanying table will show a falling off in average production per well in the Dominguez Field in California from 1,295 bbls. in January to 918.7 bbls. in March; Papoose Field, in Oklahoma, from 446 bbls. to 209. bbls.; Wortham, in Texas, from 792.6 bbls. to 253.3 bbls.; these having been the most noticeable changes. Aside from these there was not much difference in the average production per well.

In dividing the major pool production by gravity the influence of the heavy crude is plainly seen on the production in March as compared with January. In the first month of the year 490,175 bbls. a day of crude below 26 gravity was produced in the big pools, while in March this increased to 532,441 bbls. and the heavy Smackover crude had not yet begun to show in large volume. There was a decline in every other grade of crude represented in the accompanying table and some of the declines were quite marked. The falling off of crude grading above 26 gravity was 61,592 bbls. a day while the increase in the production of oil below 26 gravity was 42,266 bbls.

Production of United States

The production of the United States in the month of April, according to the estimates made weekly by The Oil and Gas Journal, was 62,440,367 bbls., a daily average of 1,988,090 bbls. This figure is subject to slight revision when the final gross production figures are available later in the month. Using the estimated production of April to fill out the total of the past 12 months' production we have a total of 725,652,668 bbls. Compared with the 12 months' production ending April 30, 1924, this is a decrease of 26,641,000 bbls. in round numbers.

The total production of the 12 months ending with April 30, 1924, was 752,294,000 bbls., showing that in the 12 months just closed the production was approximately 26,641,000 bbls. less than for a corresponding period ending a year ago. It is interesting to note the changes in the quantity of crude oil produced in the United States over a 12-month period for several years past. From May 1 to April 30 of the following year the production has been as follows:

12 months ending April 30—	Barrels
1920	401,720,000
1921	459,642,000
1922	494,548,000
1923	600,433,000
1924	752,294,000
1925	725,653,000

PRODUCTION OF THE MAJOR POOLS OF THE UNITED STATES

	October	November	December	January	February	March	No. Wells Prod. in March	Av. Daily Prod. per Well March	Av. Daily Prod. per Well January	Av. Grav. of Oil
California—										
Midway-Sunset	109,619	109,037	106,161	105,918	104,143	102,719	2,977	34.5	35.9	22.5
Long Beach	136,418	128,464	125,600	122 297	118,503	117,114	522	224.3	229.0	35.0
Santa Fe Springs	54,909	53,097	50,641	49,554	50,140	49,996	354	141.2	139.6	33.5
Huntington Beach	40,690	40,591	41,966	41,673	40,909	42,695	314	135.6	134.9	23.0
Torrance	49,447	45,586	44,942	41, 788	41,435	38,972	560	69.6	77.9	22.0
Elk Hills	39,150	38,417	37,710	37,019	37,738	37,896	266	148.5	141.8	22.0
Coyote	20,179	20,744	20,306	20,242	19,711	20,232	231	87.6	88.4	22.0
Kern River	17,787	18,113	17,856	17,783	17,848	17,376	2,170	8.0	8.2	13.0
Rosecrans	.....	.....	.....	.....	.....	17,074	40	....	....	38.5
Ventura-Newhall	.....	.....	.....	.....	20,550	20,469	554	36.9	....	....
Coalinga	24,653	24,859	24,994	22, 402	22,538	22,139	1,041	21.3	21.8	16
Montebello	16,930	16,906	17,485	19, 428	19,284	18,513	156	118.6	123.0	24
Dominguez	32,576	33,767	52,937	56, 982	51,075	48,693	53	918.7	1,295.0	31.5
Wyoming—										
Salt Creek	68,279	57,038	56,150	56, 166	66,805	56,757	1,376	41.2	41.5	37
Oklahoma—										
Burbank	73,360	71,205	68,212	58, 644	56,965	56,432	1,685	33.4	34.0	37.5
Bristow	38,947	32,766	32,055	28, 153	28,014	26,115	1,474	17.8	19.4	34.0
Tonkawa	101,419	96,207	102,691	96, 334	91,216	77,962	757	103.0	132.0	42.0
Cushing	23,910	24,045	21,642	23, 367	22,983	21,890	2,556	8.6	9.0	38.0
Hewitt	17,965	17,074	16,050	16, 246	15,843	15,727	798	19.7	20.5	33
Healdton	16,164	16,301	15,140	15, 548	15,190	15,262	1,875	8.0	8.1	30
Cromwell	40,816	47,890	40,872	33, 147	37,486	32,610	312	104.5	132.6	38.5
Papoose	.....	23,490	29,947	35, 257	36,507	29,260	140	209.0	446.3	38.5
Texas—										
Powell	75,558	69,242	60,871	59, 301	55,870	55,077	745	73.8	78.9	37.0
Mexia	24,700	23,457	20,407	20, 439	21,933	20,086	459	41.6	43.3	36.0
Wortham	.....	.....	28,818	113, 336	72,964	73,706	291	253.3	792.6	39.0
Electra	20,388	18,530	17,500	17, 587	17,238	17,738	2,550	7.0	7.2	38.5
Holliday, Archer Co.	28,944	38,399	39,115	36, 298	41,218	41,607	1,666	25.0	23.7	39.0
Hull	17,340	15,960	15,494	15, 339	15,488	22,619	271	83.4	56.8	29.0
Burkburnett	17,307	16,598	15,612	13, 526	15,149	15,104	3,341	4.2	4.1	38.5
Luling	28,680	32,864	34,412	30, 720	28,292	29,300	343	85.4	91.7	30.0
Arkansas—										
Smackover	112,921	102,615	95,129	78, 180	90,993	102,197	2,239	45.6	37.3	22.0
Total	1,249,056	1,233,202	1,250,724	1,282, 672	1,274,037	1,263,346	32,116	39.9	45.6	....

Production of the 30 Major Pools by Gravity

Grade of oil—	March, Bbls.	Feb., Bbls.	Jan., Bbls.
40° and above	77,962	91,216	96,334
38-39.9°	248,998	243,545	272,516
36-37-9°	188,352	201,573	194,550
34-35.9°	26,115	28,014	28,153
32-33.9°	65,723	65,983	65,800
30-31.9°	93,255	94,556	103,250
28-29.9°	.....	.....	.....
26-27.9°	30,500	32,400	31,894
Below 26°	532,441	516,740	490,175
Total	1,263,346	1,274,037	1,282,672

NORTH TEXAS MARKETS IN BETTER CONDITION

FORT WORTH, Tex., May 16.—With the exception of fuel and gas oil the refined market in North Texas territory is in much better condition than it has been for weeks and indications are there will be further improvement. Refiners in the Wichita Falls district are in better shape to make a market on their output than in many weeks. Even fuel oil is expected to show an advance in price within a week or two due to the fact that refiners in North Texas are in position to hold this product for higher prices.

The gasoline market is particularly strong. The biggest factor is the heavy shipments going to fill the big order for the Standard of New Jersey, which is now netting refiners in this territory 13.65 cents. Exporters are offering freely 14 cents for 64-66, 375 end point and there is not much being bought at that price. Refiners report they are just about sold up on this grade of gasoline, and what they have has been going to fill the Standard of New Jersey order. United States Motor oil is being quoted at 11¼ to 11½ cents and is very strong at these quotations.

The kerosene market is showing slightly more strength. The low price for the week on 41-43 water white was 4½ cents. A little of the prime white grade was moving at 3⅞ cents to 4 cents.

The market on gas oil is in fair shape and the product is strong at 2⅞ cents. Buyers are offering this price freely. The market quotations are 2⅞ to 3 cents The fuel oil market is still weak, bottom prices for the week being 82½ cents per barrel. Not much was moved at that price. Quotations range as high as 90 cents with prospects for a better price within 10 days.

The natural gasoline market is very strong, in keeping with the strong position maintained by U. S. Motor oil and export gasoline. Grade A is quoted at 11¼ to 11½ cents with the majority of the sales probably being around the latter figure. Both grade B and Grade C are quoted at 11 to 11¼ cents.

CALIFORNIA GASOLINE TAX

SACRAMENTO, Cal., May 16.—Governor Richardson has not yet signed the bill providing for an increase of the State's gasoline from 2 to 3 cents. The Governor has recently been having considerable discussion with representatives of various organizations opposed to the bill including many labor unions.

Which Is Supreme in The Osage, the U. S. Or State of Oklahoma

The case of Midland Oil Co. vs. Ball now pending in the Supreme Court of Oklahoma and set for argument on rehearing for May 20 involves the question whether a surface owner or occupant in Osage County may seek redress in the State courts for alleged damages for pollution of fresh water supply resulting from oil operations in advance of submitting the matter to arbitration as required by the Federal rules and regulations and lease provisions.

The Midland Oil Co., plaintiff in error, suffered an adverse judgment in the trial court for damages to cattle alleged to result from drinking salt water escaping from the company's wells. It interposed as one of its defenses that there had been no arbitration as required by the lease and regulations and that until there was an order to arbitrate on the part of the grazing lessee the State court had no jurisdiction and that State conservation laws and regulations regulating disposal of salt water and basic sedimnet did not apply because the subject was covered by regulations of the Secretary of the Interior.

The contentions in Midland Co.'s brief and in that of the Osage Oil & Gas Lessee's Association as amicus curiae, are that the laws and regulations of the United States are supreme because the Osage mineral rights are restricted Indian property and wholly within the jurisdiction of Congress and the Internal Department under the constitutional delegation of authority and that the lessees are governmental agencies. That in case of conflict between Federal and State laws and regulations on the subject the latter must give way to the former.

Alarm on Exhaustion of Oil Unjustified

W. S. Farish, President Humble Oil & Refining Company Replies to Questionnaire From Federal Oil Conservation Board

By W. S. Farish
President Humble Oil & Refining Co.

In my judgment the responsible heads of the oil industry in the United States feel that they also have a responsibility to live up to "in maters of national security and industrial prosperity," and that the management of the business over which they have supervision is not always from a selfish viewpoint. I feel justified in making this statement because of the unselfish whole-hearted cooperation and self-sacrifice of money and time given by the oil industry in the late World War.

"The primary object of this study under Government auspices is elimination of waste." I welcome the study. I feel the oil industry is so misunderstood and is so little known I can see nothing but good to come from the study. However, it occurs to me that if the facts show there is no waste of consequence in the oil industry as it is being conducted, the primary objects of this study would necessarily be of slight consequence. Much good, however, can come from the study in a clearer understanding of all facts regarding the production and handling of oil.

I fear that in the inauguration of the Conservation Board, the oil industry has been somewhat prejudiced, in that the inquiry assumes as a fact an alarming situation, due to supposed wasteful methods, and apparently is to be devoted entirely to the discovery of a remedy; whereas, it would seem more logical, to determine first whether there is in fact any alarming situation, or any condition which needs any remedy whatever. I fully realize that the members of the Board who have devoted their life work in lines of endeavor outside of the oil business, must of necessity base their action upon information and opinions of others who are supposed to be familiar with the oil business. While to my mind it is apparent that a considerable amount of misinformation or biased beliefs and opinions must heretofore have been furnished in this connection, I feel confident that when the true facts relative to the industry are presented, your board will have no difficulty in reaching the conclusion that there is no foundation for the alarm which prompted this investigation.

Waste Minimized

Question 1. Generally, in what directions do you consider that waste in production should be reduced and stabilization effected?

To answer this question one must first have a clear cut understanding of what is meant by "waste." To my mind, waste might mean several things:

(a) **Oil that is unnecessarily lost to all use.** This is the ordinary acceptation of the term. So far as this character of waste is concerned, it is my judgment it is already minimized to the point where there is very little room for any further reduction. This applies to practices in the field, in transportation and in refining. In fact, there is perhaps less waste of this character in the oil business than in any other business, and what loss there is is being further minimized by the use of technical practices such as gas-tight tanks, concrete floor derricks, and oil-saving devices of all kinds applied in the producing, transporting and refining of oil.

(b) Economic waste: I think the use of the word "waste" in this connection is probably wrong, but I list it here because in the minds of some people the use of oil as fuel in competition with coal, is considered an economic waste. However, in my judgment this is not waste. It is an example of convenient utilization of the product of one natural fuel balanced against the continued use of another source of raw fuel. We know that today there is an economic advantage in the use of fuel oil against the use of coal. I believe that increasing cost of oil production would prohibit the use of fuel oil where coal is available. If it be considered a waste to use oil uneconomically, this would be avoided by a higher priced oil.

(c) **Capital Waste.** In the development of some of our fields, where drilling on small tracts or town lot drilling is carried on, there is perhaps some waste of capital, in that the oil could be produced with fewer wells. Capital waste, if such exists in the drilling of too many wells, might be reduced by the pooling of interests, which today is illegal and would be in violation of the law prohibiting combines and monopolization.

As to the term "stabilization," used I am at a loss to understand what is meant—whether you mean stability of price, stabilization of production, or both. In my judgment, the price and value of oil as a raw material is fixed by the law of supply and demand, and I know of no way in which stabilization of prices could be effected, except through monopoly. Naturally increased price stimulates production, while falling price depresses production. Control of production other than by this natural law, would have to be by artificial limitation of production by agreement or by monopoly in land ownership.

Overproduction

Question. 2. What is your estimate of overproduction, if any, at this time? (a) if there is overproduction, what is it costing the industry in expense of storage, in dumping of surplus on the fuel market, or in other ways? (b) What are the underlying causes of such overproduction, and the remedies?

In answer to this question, I am not clear as to what is meant by "overproduction," as used here. In general my idea of economics has been that there is no such thing as overproduction of any raw material if some use at some price can be found for the product. If by overproduction is meant the production of oil in such quantities as will cause part of the product to be used for "uneconomical purposes," such as fuel where coal could be used, there may be some overproduction, but as to the actual sale and consumption against supply, there is no overproduction at the present time, and has not been for some six or eight months. The daily production now (March 31, 1925) is just about equal to the daily consumption. Some months ago, there was an overproduction and crude oil was going into storage. The price fell, discouraging any new development, with a consequent falling off in production. During the latter months of 1924, production fell off, consumption increased, and as a result price of crude advanced. Our supply, readily and easily found in the United States, is such that I confidently expect the present price, which gives some profit to the producer, to bring about an abundance of supply and sooner or later, that crude oil will again go into storage.

(a) There is some expense incurred in carrying oil in storage, but it is essential to the stability of the oil industry to have some oil in storage above ground, just as any other manufacturing industry must have a reserve supply of raw material. There is a difference of opionion as to the amount of reserve storage crude which should be kept on top of the ground for this purpose. There is now in storage crude oil and refined products amounting to something over a half billion barrels; which would supply requirements at the present rate of consumption for approximately 250 days, if no more oil should be produced. Of course, it is inconceivable that all wells should cease producing at the same instant and hence this oil in storage would make up the deficiency between production and demand for a very much longer period than that stated. There are some people in the industry who maintain we now have too much oil in storage. There are others who hold that the amount of oil and its products in storage is not more than is necessary. In my judgment, the mere fact that this amount of oil is in storage above the ground today is a stabilizing influence on the price of crude, and I do not consider the fact that the American public is using a considerable amount of oil for fuel as evidence that the oil industry is dumping its surplus upon the fuel market. Certainly if monopoly existed, all of this oil would not be used for fuel as such prices might be asked as would cause coal to be substituted for a large part of it. It is impossible for me to estimate what it is costing the industry to supply this fuel market as against curtailment of consumption by asking higher price.

Cause of Overproduction

(b) What are the underlying causes of such overproduction, and the remedies? I would say that the fundamental cause of overproduction, if such exists, is the inborn characteristic of each American citizen to want to have a business of his own and to make money, and the idea that large amounts of money can be made in the oil business. This causes more individuals and individual concerns to enter the oil prducing business than the economics of the situation would justify. This results in periodical floods of production whenever a profit is offered to the producer and he is encouraged to make a real effort. Competition in the oil business is probably keener than in any other industry and the law of supply and demand operates more constantly and forcibly than in any other industry.

If the use of oil as fuel be considered evidence there is an overproduction, I think the working of an elementary economic law will right the situation if it should need righting. Thus, if contrary to my belief, the supply should fall off, the price for crude will advance so it will not be economical to use oil as fuel in preference to coal; if such price for crude shall not advance, there will be no shortage in supply of oil and no need to curtail its use as fuel. I think it important you get the correct idea that nothing of a startling nature can happen suddenly. Every field discovered in Texas is still producing oil; some in the East have produced over 50 years. If we should consider (as experience shows to be clearly unwarranted) that there will be no new discoveries, yet the possible exhaustion could be indicated by the gradual decrease in supply years before such actual exhaustion may come. This decrease would stimulate the price that coal, lights, etc., would be substituted for oil, and thus the demand would adjust itself to such lessened supply.

Remedial Suggestions

Question 3. With the present day development of technique for finding oil and for producing oil at a rate never before attained, how can the brakes be put on the "bringing-in" of new pools and unneeded production?

The bringing in of new pools and the too rapid production of oil from present pools will be controlled either naturally by the price of oil which in times of overproduction will be so low as to discourage such efforts or artificially pooled control of oil producing properties if same should be permitted by law.

(Question 3 continued) (a) What can be done in exploration of new pools, or fields, without exploitation until the market demand warrants new production?

Nothing can be done, except leave the time of actual production from known fields to the business judgment of those who own them. It seems to me that every oil company in business today is making a serious effort to build up undrilled reserves in an effort to protect future supplies. These undrilled reserves are found in various means,—the use of geology, core drilling and in late years the use of technical instruments. Exploitation of such reserves could be delayed and held in check if the companies who own same were permitted by law to enter into pooling agreements that would tend to delay development.

(Question 3 continued) (b) How can the Government and the industry cooperate in encouraging the creation of drill tested reserves to be opened as needed?

The Government can assist by taking off the market any and all Government lands, by setting an example, and by making legal contracts to pool acreage and delay development.

No Shortage Feared

(Question 3 continued) (c) This would mean not conservation as some define the word, but simply delayed production rather than wasteful production which threatens to deplete the nation's oil resources.

The threatened depletion and early exhaustion of the nation's oil reserves is an imaginary danger which does not exist in fact. The idea that such exhaustion is threatened, exists chiefly in the minds of those whose information regarding the oil business and the reserves of oil in the United States, is recived from sources that are biased and do not look at the situation from a broad practical standpoint. I do not admit that "wasteful production," which threatens to deplete the nation's oil resources exists today.

Question 4. How imminent do you regard any serious difficulty in meeting the country's oil requirements?

The necessary requirements of the country, which consist primarily of an adequate supply of lubricating oil and gasoline, and such necessary fuel as may be needed by our Navy, and a few special uses for fuel oil, can, in my judgment, be met by the industry indefinitely; indeed I see nothing that would require one to put any time limit whatever. I do not regard the question of meeting our country's necessary oil requirements as imminent or in anywise doubtful.

(Question 4 continued.) (a) Should shortage be anticipated by preferential use?

No, because there is no threatened shortage.

(Question 4 continued.) (b) Should a shortage in domestic crude come, what will the future offer in the way of substitutes—foreign oil, oil shale, coal distillates or organic distillates?

If a shortage in abundant supply of petroleum from present sources should develop, we have available in almost unlimited quantities petroleum from Mexico and South America, and from oil shales, coal and lignite, and in substitution for gasoline many other available sources of supply, so that taking all sources into consideration, my judgment is that lubri-

*Answer to Federal Oil Conservation Board questionnaire, addressed May 15 to Secretary Hubert Work, chairman.

cating oil and gasoline and such necessary fuel as would be needed for national security will be available just as long as there shall be need for them.

Competition With Coal

Question 5. Under present conditions, is oil being produced and used as fuel that could and should be replaced by coal?

There is some oil being used for fuel which could be replaced by coal; whether it should or not depends upon the point of view, and upon many operating considerations than the mere first cost of the raw fuel. Some conservationists might insist that this oil should not be used for fuel, but should be held for use of some future generation, which future generation might not be able to use it because by that time science may have discovered some new and cheaper source of energy which would make the use of oil unnecessary. Suppose for example before the development of electricity in its present form of light, some conservationists had insisted that kerosene be held and accumulated against future needs in order to light the wisdom of the world.

In my judgment, the owner of the oil that is being used for fuel today cannot hold same for some higher use as it would be impossible for him to do so. It is necessary for him to pay taxes, and the cost of carrying on his business and accumulating immense stocks for some future imaginary use or speculative purpose either in the ground or on top of the ground, would be prohibitive. Furthermore, it would be entirely natural for the owner of oil land to desire to exercise his right to produce the oil and reap during his own lifetime some benefits from his property.

(Question 5 continued.) (a) What is your estimate of the amount, if any, of this unnecessary use of oil as fuel, and what are the effects on the oil industry?

I do not consider there is unnecessary use of oil as fuel, but there is perhaps some 150,000,000 barrels a year being used for fuel for which coal could be substituted. The use of this oil has had the effect of keeping out of bankruptcy practically all of the concer. . in the oil business in the United States, as without the legitimate fuel market under our present laws none of them could successfully carry on their business.

Estimates on Waste

Question 6. Under the present methods of producing oil, what is your estimate in volume of the waste of oil and gas? (a) can you list the principal causes and suggest means of avoidi..g or reducing the waste?

Under the present method of producing oil, in my judgment, there is practically no actual waste of the oil itself. Such small or slight waste as there might be is being rapidly and completely eliminated as mentioned above by improved technique. In my judgment, from the time the oil is brought to the surface until it is put in the stills at the refinery, the actual proventable waste of the oil itself is less than one-tenth of one per cent. I believe there is a lower percentage of waste in the prouction, transportation and refining of oil, than there is in any other product I know of, whether it be coal, iron, cotton, corn or wheat.

As to gas,—there is some waste under our present method of producing oil, this waste being primarily in areas and districts subject to rapid depletion, and where there is no gas line or market to take the gas as it is produced with the oil. The gas, however, performs a very useful and valuable service in lifting the oil. It is doubtful whether after performing such service, if there happens to be more gas than is needed in the development of the oil field itself, there can be said to be any actual waste as the term is generally used. There is no doubt but that if one concern owned all of the oil field, some provision might be made to curtail production of both oil and gas and better effort than is now made in some few isolated instances to get the gas to market. To accomplish this, however, would require monopoly of supply, also available consumption points and adequate capitul to construct gas lines. Most States have rigid oil and gas conservation rules which largely eliminate the waste of gas, and today in actual practice this whole subject of gas is receiving more intelligent practical analysis from a conservation standpoint than ever before.

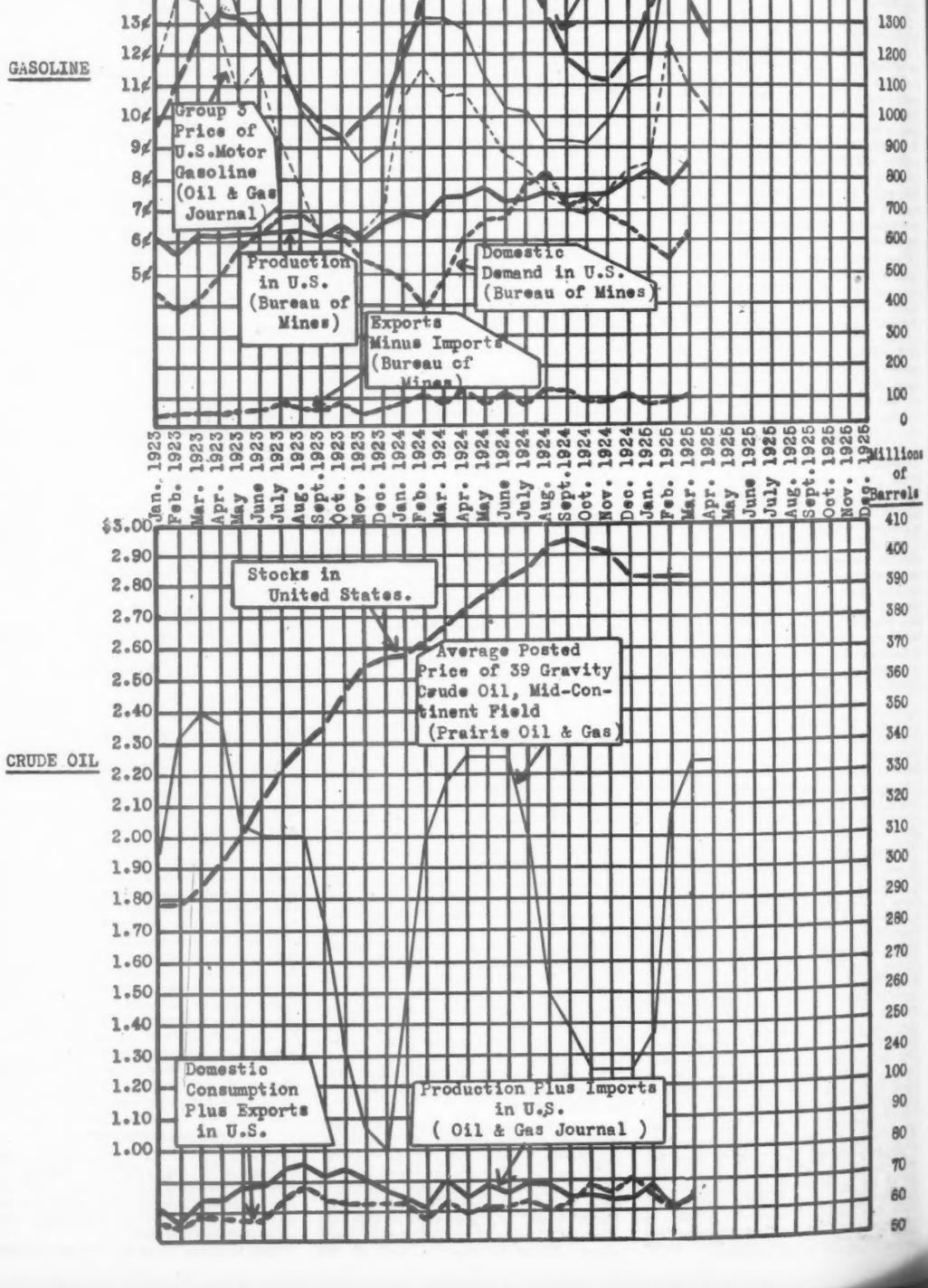
(Answer to (a) under Question 6.) There is no real waste of gas, except at places or points where there is no market for same.

Technical Improvement

Question 7. Do you regard changes in technical methods in the production and consumption of oil as promising relief in reducing the present high percentage of waste, or do you recommend changes in laws governing possessory rights in oil and gas as necessary to avoid the present scramble for oil?

I think the natural self interest and desire to profit on the part of all producers will bring about the better use of all technical methods in production which will eliminate any preventable waste. I believe higher prices for oil and all of its products will in the same way bring about a better and more economical use of same in all of its various uses. I do not consider the present oil situation, whether it is looked at from the point of view of the industry or of business at large, as serious, or such as to warrant any change by law in its conduct. There is no condition existing in the industry today, no matter from what point the industry is considered, that will warrant any change in possessory rights in the

STATISTICAL GRAPH OF GASOLINE AND CRUDE OIL
FOR YEARS OF 1923, 1924, AND 1925


GASOLINE
CRUDE OIL
Millions of Gallons
Millions of Barrels
Group 3 Price of 64-66 375 Straight Run Gasoline (Oil & Gas Journal)
Stocks in U.S. (Bureau of Mines)
Group 3 Price of U.S.Motor Gasoline (Oil & Gas Journal)
Production in U.S. (Bureau of Mines)
Domestic Demand in U.S. (Bureau of Mines)
Exports Minus Imports (Bureau of Mines)
Stocks in United States.
Average Posted Price of 39 Gravity Crude Oil, Mid-Continent Field (Prairie Oil & Gas)
Domestic Consumption Plus Exports in U.S.
Production Plus Imports in U.S. (Oil & Gas Journal)

ownership of oil and gas even if such change could be legally effected.

(Question 7 continued.) (a) Do you as an alternative to legislation see any promise in cooperative agreements providing for the unit leasing, or unit operation, of all the lands in an oil pool?

As an alternative to any law changing the possessory rights in property, I do see promise for holding back production for future use and better prices if we could have legislation legalizing cooperative agreements and agreements within the industry not to develop until some future date.

Is There Any Real Danger?

The controlling question in your inquiry is not whether there is an overproduction of oil, nor whether it is uneconomically produced or wasted, but whether there is any real danger of the exhaustion of the oil supplies. It is only if there be such danger that the public is interested. I know you will agree with me that unless there be such danger, it is not within the province of Government (either Federal or State) to control the manner of production or use of oil, and such question can, as in other industries, be left to the factors therein to work out as their experience and judgment may indicate.

Since I left college, some 24 years ago, practically my entire business career has been in the oil industry, running the gamut from the actual drilling of wells to the conduct, as chief executive, of one of the substantial oil enterprises. The alarm that oil supplies would be exhausted has been frequently sounded; it comes from men whose integrity and sincerity of purpose I do not question, but I think they have been so carried away by consideration of the disastrous effects which they believe would come from such exhaustion, that they have failed to consider the real question, whether there is in fact any danger of its coming. My life's work has caused me to consider this problem frequently, both from the standpoint of my duty to my country and to my stockholders; my conclusion at all times has been that there is no such danger. Permit me to state some of the reasons for this conclusion.

Deeper Drilling

First. When I began with the oil industry, wells were drilled from 1,200 to 1,500 feet deep; a successful drilling to 2,000 feet was a matter of comment. As I write this there lies on my desk a report of a producing well in California 6,737 feet deep. With greater skill and improved appliances, no experienced oil man believes we have yet reached the limit in drilling; it seems very much more probable now we will soon drill to 10,000 feet than it did in 1902 that we should go down 2,500 feet. The importance of this is that each deeper drilling renders available to man's use oil deposits previously unattainable. Certainly it is impossible to ascertain the amount of recoverable oil, upon which to base a conjecture when the same may be exhausted, when we only know we shall drill deeper, but do not know how much deeper. Further, certainly no reliance can be put in any such attempted ascertainment when the important factor of what deposits may be later reached is unknown.

Second. Each year of my experience has witnessed the discovery of new oil fields; no one acquainted with this industry doubts it will continue to find others. Yet what has been done was on the "hit or miss" plan, aided in recent years by geologists; now scientific aids have been found. It may be their efficiency has not yet been fully proven, yet there is no doubt the principles upon which they are based are sound, and that they will be perfected as accurate means for this finding of oil-bearing structures. Therefore, the assumption is warranted, both that new oil fields will be discovered, and that scientific means will be available for their discovery. Clearly it is impossible to ascertain the amount of recoverable oil, upon which to base a conjecture when the same will be exhausted, when we do not know the undiscovered fields, but do know that we shall discover them, and with greater facility than heretofore. Can any reliance be put in any estimate, no matter by whom made, when these factors are not and cannot be taken into consideration?

Oil Never Failed

Third. The oil industry has been in operation something over 60 years. At no time has there been a lack of oil for man's needs. In my belief our own country will produce, as far in the future as we can see, all oil needed for its industries and for its national safety. But, if I should be wrong in this opinion, yet we know there are large quantities of oil now being produced in Mexico, Venezuela, United States of Colombia and Peru. We further know that very meager geological surveys have indicated the existence of such deposits in Central America, Bolivia, Brazil, Argentine, and other Latin-American countries. But it may be said these will not be available to our country; with cheap ocean transportation, why not? Is it conceivable that these countries, which now plead for American capital and ingenuity to develop their mineral resources, will rapidly commit financial suicide by prohibiting the import of oil? But it may be further said that such supplies will not be available in time of war. Does any man believe there is any serious likelihood that the United States, whose maintenance of the Monroe Doctrine has made it the guardian of these smaller nations will become involved in a war with any of them?

Fourth. In our own country, as I have suggested in my replies, there exist vast quantities, running into the billions of tons, of oil-bearing shale. The problem of extracting oils therefrom is no theory, no experiment; it has been done successfully in Scotland, it is being done in the United States today. If driven to get our supplies from that source, it would mean no more than a slightly higher cost, it certainly could not mean industries would not run, nor that the national security would be imperiled.

Fifth. Any one of the foregoing arguments seems to me to be a sufficient reply to the alarm that the oil supply will be exhausted. But the case is not complete unless we recall that science has shown us how, if driven to it, we can make from low grade coal practically every product which well equipped oil refineries now turn out, and the supplies of such coal are practically inexhaustible.

Greater Efficiency to Come

Sixth. I could add the thought that American genius has also shown us how far greater efficiency can be gotten through improvements in our gasoline engines. Greater engine efficiency means greater automobile mileage and more useful work of all kinds from the same supply of crude oil, or it means equal mileage and an equal volume of useful work from a much smaller supply of crude oil.

Seventh. Finally, it should be borne in mind that refinery technique is improving each year and will continue to improve, with the result that we are constantly able to secure larger yields of gasoline from each barrel of crude oil now going to make steam under boilers can be converted into gasoline and so devoted to a higher more efficient purpose. Much of the residue from such cracked gasoline manufacture can also be devoted to a higher use through Diesel type internal combustion engines. That part of our present crude oil supply which now goes into fuel trade is, therefore, a considerable reserve which will be drawn upon whenever the demand justifies its higher use.

In conclusion, then, my thought is that the exhaustion of our essential supply of petroleum products is not imminent, but is so remote as to justify absolutely no alarm at the present time.

GROWTH OF SCOTTISH SHALE OIL INDUSTRY

(Continued from Page 23)

used the brooks for watering their stock eventually brought about an investigation by the River Pollution Commission who decreed that the practice must cease. In compliance, the drainings were turned into a field where, as a result, it was soon noticed that the growth of grass and weeds was greatly stimulated. A chemical analysis showed the waste water to contain a large per cent of ammonia and steps were immediately taken towards its recovery and utilization. This led to scrubbing the fixed gases from the retorts with water as well as with naphtha as previously mentioned. Shortly afterward ammonium sulphate, the most valuable by-product of the shale oil industry, was placed on the market.

In the manufacture of ammonium sulphate the ammonia water (NH_3+H_2O) from the condensers, together with that from the shale-gas scrubbers, is pumped through a heat exchanger to the top of a column still where it descends over horizontal trays counter-current to superheated steam introduced at the bottom. In order that the nonvolatile as well as the volatile salts of ammonia may be liberated by the steam, milk of lime is injected into the column at a point about one-third of its height from the top. The ammonia-free water flows out at the bottom of the still, exchanging its heat with the fresh ammonia water being pumped into the top of the column. The ammonia vapors pass from the top of the still to a lead-lined vertical wooden tank called a "cracker." The cracker contains 2,000 Imperial gallons of "red acid" of about 26 degrees Baume, recovered by steaming and washing the acid-sludge resulting from the crude distillate or "green oil" treat in the refining process. The ammonia vapors are conducted through lead pipe to a perforated lead coil in the bottom of the cracker, from whence they are bubbled through the weak acid. When no further action takes place the ammonium sulphate is dropped into lead-lined settling tanks where any tarry matter or other impurities settle to the bottom and are drawn off. The clear liquid is then charged to an evaporator where crystalization takes place with the aid of a slight vacuum and heat exhaust steam. The crystaline ammonium sulphate is then dumped from the evaporator into centrifugal driers which in turn deliver it to a screw conveyor. The latter carries the sulphate through a final drying oven to a storage bin from whence it is shipped to market in burlap sacks.

Each charge of the cracker produces about 3.75 long tons of ammonium sulphate. Approximately 60 per cent of the acid used in refining the shale oil is recovered and thus employed. A certain amount of new acid must also be used, as the acid recovered from refining the oil produced by five tons of shale is only enough to manufacture the ammonium sulphate from one ton of shale. At Pumpherston, however, the recovered acid is sufficient to meet all the requirements of the sulphate, for, in addition to the products of its own retorts, the Pumpherston refinery runs crude from several other retorting plants which manufacture ammonium sulphate but do not refine crude oil.

Editor's note:—In another article to be published soon, Mr. Isom will deal with the refining of crude shale oil.

Ohio Marketers Ask Reduction on Freight From Group 3 Field

CINCINNATI, Ohio, May 16.—Rate discrimination, taxes on gasoline and alleged hostility on the part of automobile clubs toward the industry, were featured in the discussions of the convention of the Ohio Petroleum Marketers' Association closed here last night.

Before the two-day gathering adjourned to meet in Youngstown next year, the delegates unanimously agreed to seek cooperation on the part of chambers of commerce in the 110 cities represented in an effort to obtain correction of alleged discrimination against Ohio points from the Mid-Continent Field.

"Removal of this unfair rate structure," according to speakers at the convention, would almost offset the loss faced through the imposition of the Brown two-cent-a-gallon gasoline tax recently passed by the Ohio Legislature over the veto of Governor Donahey. The rates complained of are those on oil products from Kansas and Oklahoma.

If the charges sought are made, according to the delegates, consumers of gasoline in the Buckeye State will save from 1¼ to 1½ cents a gallon by reducing the freight rates to the basis of Chicago at 32 cents, and the Indiana basis of 36½ cents a hundred pounds. The present rate on oil products from the Group Three ranges from 51 to 53½ cents a hundred pounds, varying with distance.

The rate structure was brought to the attention of the convention by E. E. Bessire, of Lima, vice president and manager of a large independent company operating in 22 North and Central Ohio counties, who estimated that if the "abuse" were rectified the saving to Ohio consumers would aggregate more than $38,000,000 annually.

"The way has been pointed out by the Indiana State Chamber of Commerce," said Mr. Bessire. "It obtained from the Interstate Commerce Commission, less than two weeks ago, a reduction in oil products rates from Group Three to a basis of 36½ cents a hundred pounds for virtually all points in the State.

"This was done by showing that the Chicago basis was about 32 cents, and that the Indiana basis should be made on the same ratio. Here in Ohio we are paying a rate of from 51 to 53½ cents, according to distance. That makes a freight charge of about 3 cents a gallon on gasoline and about the same on crude oil for fuel purposes and on lubricating oils. At Lima, only 40 miles from the Indiana line, the rate on gasoline is exactly 17 cents a hundred more than the Indiana rate, and it costs about two cents a gallon to haul the gasoline 200 miles across Indiana.

"There is no justice in such a differential as 17 cents a hundred against Ohio points. Here in Cincinnati, where you are about 14 miles from the Indiana line, the discrimination is even greater."

Mr. Bessire said that a foreign corporation, allied with the Royal Dutch-Shell interests, was barging gasoline from New Orleans to St. Louis and bringing it into Ohio, underselling the Standard two cents a gallon at filling stations. He said this showed that Cincinnati should have an advantage by reason of being a river port.

The Ohio tax on gasoline was the target of former Mayor George J. Karb, of Columbus, president of the association, who charged that the legislation was started by an automobile club in Washington, which he said was urging motorists' organizations in all parts of the nation to push it.

According to the Columbus man, the plan was to persuade filling station owners to accept from automobile club members $10 coupon books with coupons worth two cents each, so that with each sale of gasoline the station would be making a cut of two cents. These books were given out by the clubs as a means of increasing memberships, he charged.

"Bootlegging" of gasoline was reported by other delegates, the reports stating that in border towns of Kentucky, Indiana and West Virginia these "bootleggers" threatened to demoralize trade until arrangements could be made with jobbers and State tax commissions. The "bootleggers," it was said, operated not with filling stations, but with garages and other large consumers of gasoline.

An open forum on the gasoline tax was led by Herbert Fuller, Cleveland attorney, who condemned the Brown act as "a hodgepodge of half-baked ideas." He expressed belief that it was not constitutional and would not stand the test of the courts. Warmly commending Governor Donahey for the sizzling veto message hurled at the bill, Mr. Fuller condemned the Legislature for overriding the executive disapproval.

Referring to the rulings of Attorney General Crabbe as having been vague and conflicting, Mr. Fuller said it would be difficult to figure out precisely how the law had been interpreted. He added

that, by the decision of the Ohio legal department, cities would not be able to have tax-exempted supplies of gasoline unless they purchased tank-car loads from companies outside the State. Gasoline used by Government vehicles would be exempt, he said, with the exception of that used in machines owned by rural mail carriers or persons using their own cars to carry mails on contract.

Antagonism toward the industry was credited to the Cincinnati Automobile Club by W. F. Burke, of Cincinnati, first vice president of the association.

"The club has been very unfair to the oil jobbers of Cincinnati," said Mr. Burke. "The club has been behind a movement to charge the filling stations with selling short measure on five-gallon lots of gasoline. Not long ago it came out in the papers with accusations that the filling stations of Cincinnati were short-selling in gasoline to motorists. Members of the club made a check and charged that 15 of the 45 stations visited were selling short measure. They never made any mention, however, of the fact that 18 stations were giving a better measure than five gallons.

"And after they finished the check we learned that the five-gallon measure they used had had a leak in it for more than a month. "They took us for a bunch of suckers because they knew what suckers the trade had been in other things."

NEW METHOD FOR CLEANING WELLS WITH AIR

(Continued from Page 32)

Take the large number of Bartlesville wells in northern Oklahoma and multiply them by the figure that Mr. Beard mentions in the experiments of the Tidal Oil Co., and one has a tidy increase in the production of northern Oklahoma.

Mr. Beard's Paper

Extracts of Mr. Beard's paper follow:

About three years ago, I. L. Dunn, of Marietta, Ohio, found that wells could be cleaned out by blowing them out with compressed air, and this method has since been used with conspicuous success on many wells in the Marietta, Ohio, district where compressed air is being used under the Smith-Dunn process for increasing production by forcing it through the depleted oil sands.

About a year ago the same process was used with equal success in cleaning out wells in the Lenapah Pool in Oklahoma, where an air plant had been installed under the supervision of I. L. Dunn. Wells from 900 to 1,000 feet deep, and with as much as 40 feet of sand and cavings in them, have been cleaned out in this pool, in from two to three days.

The use of this process had so far, been limited to properties using the Smith-Dunn process, where compressed air under suitable pressure and volume, was available. For the other properties, a portable compressor seemed essential and this was built, and successfully demonstrated by Mr. Dunn, for the Tidal Oil Co. in September, 1924.

The process of cleaning out with air consists of lowering the tubing into the well, with a shoe or nipple of heavy pipe, substituted for the perforated anchor on the bottom. Into the tubing, compressed air is introduced through a rotary swivel hose at the top or by means of swing connections. The tubing is lowered to the top of the cave to be cleaned out, several barrels of water put into the hole, and the compressor air turned on. This blows out the substance between the casing and the tubing, the tubing being lowered as the substance is removed.

By this means, the shale cavings, loose sand, rocks, paraffin and other substance can be blown out in a surprisingly short time, and in a manner more complete than is possible by drilling tools and sand pumps. Any rocks large enough to pass out of the hole will be ejected and larger rocks usually can be crushed by means of the heavy nipple or shoe, on the bottom of the tubing, which is raised and lowered by a winch. For the shallowest wells, 100 pounds pressure can be used, though not with entire satisfaction. For deeper wells, more pressure and volume are needed, though not in direct proportion to the depth. Wells as deep as 2,500 feet were cleaned out in Wyoming by high pressure gas.

Portable Machine

For a portable machine the question was getting an adequate charge of high pressure air. It was obvious that no compressor large enough to deliver the needed volume continuously could be portable, and so a tank had to be provided. After tests it was found about how large this would have to be, and then inquiries were made for compressors light enough to be portable, yet capable of filling this tank to a high pressure within a reasonable time.

An Ingersoll-Rand straight line, two stage compressor, was finally found that appeared suitable, and this was mounted on two 7-inch "I" beams, which also formed the framework of a trailer, pinned to the tractor, to which the compressor could be bolted, when at the well location. The tank 3½ inches by 14 feet was mounted on a wagon, (the tractor), compressor, trailer, and tank wagon, forming a train. As the tractor was equipped with half of a Haubert winch, only a pulling mast was necessary for a complete outfit.

The outfit was designed to clean out wells of 600 to 700 feet in depth, but it was first tried on a well 1,300 feet deep on a Tidal Oil Co. lease at Dewey. It was found that under these conditions of service the delivery of the tractor was not adequate and a second tractor of the same make had to be belted on to the compressor from behind. While this arrangement would not be satisfactory for a final design it enabled demonstrations to be made on two wells which are convincing as to the practicability of the outfit and as to the benefits of the process of cleaning wells.

After numerous inquiries it was found that no suitable compressor was being made that would meet the requirements, and it was necessary to design and build a high speed, two stage portable compressor, that would pump up to 500 pounds in a short time. Such a compressor plant has been designed and built by the Chicago Pneumatic Tool Co. The designing and manufacturing of this compressor required approximately four months. We have six of these machines in use and are operating with very good success. The Ingersoll-Rand Co. and the Rix Compressed Air & Tool Co. have also designed and built a portable outfit.

In operation the train is run up to the well, a pulling mast is set up over the well, and the rods and tubing are pulled by means of the winch on tractor, or other pulling devices. The shoe or heavy nipple is then substituted for the perforated joint of tubing, and the string is run in again with the working barrel.

To the top of the string of tubing is attached the rotary swivel and hose which connects it to the air tank at a port in the top. The compressor is then run until the tank is charged to 400 or 500 pounds pressure. This charge is then let into the tubing, which is lowered as the well is cleaned out, until the charge has been exhausted to 150 or 200 pounds, when the pressure becomes too low to be effective.

The tank is then charged again, which takes from 25 to 35 minutes, and the operation repeated until the well is cleaned to the bottom. The well can then be thoroughly washed out. The pressure is then introduced into the casing, which forces all the remaining floating sand and fluid out through the tubing. This operation leaves the wells in a thoroughly cleaned condition, after which the rods with working parts of the pump, are run in and again put to pumping. The tubing shoe is left in the hole, so that the next time the wells are cleaned out, it will not be necessary to pull the tubing, but only the rods and working parts.

In the Dewey-Bartlesville district the Tidal Oil Co. has cleaned 20 wells with the air machines, with an average cost of $237.50 per well. The average time on cleaning these wells with air was three days, including pulling and putting the wells back to pumping, and the production was increased on an average of 1¼ barrels per well per day, on wells that had produced one-quarter barrel per day. The average time on cable tool machine cleaning out in this district was 51 days per well, which average is based on the last five wells cleaned out by our company, and the average cost on our books, is approximately $1,000. The machine cleaning out we did in this district did not increase production enough to notice.

The average cost of $237.50 on wells blown out with air, is made up of fuel, labor and material, depreciation and royalty.

Successful Tests

In January this year, we moved two air tanks to our lease in the SE of Section 4-26-6 (Burbank district) to test it on deep wells, pressure being supplied from a stationary compressor. We were not very successful on the first well, due to various new conditions met with in this experiment. However, as a result of our experience with the first well, the second well was cleaned out and put to pumping in three days, exclusive of pulling and putting the wells back to pumping, with an increase in production of three barrels per day, and the third well was cleaned out and put to pumping in five days, with an increase in production of 2 bbls. per day. The average time in cleaning wells in this district with cable tools was 26 days. The cost of cleaning these wells with air will not exceed $500. while cable tool cleaning run $1,200 to $1,500 per well.

At Burkburnett we were confronted with a very unusual condition in that we had a very high back vacuum working against us with unusually open sand. By using the ordinary method of air clean-out our pressure was lost in the top sand, where the vacuum would pull it through. After working with methods previously used we devised a special tool and were then able to clean the wells to the bottom very satisfactorily. It is necessary to use this method in localities where we have a soft sand formation and are pulling a high vacuum.

The pay sand in some fields is in the bottom and it is necessary to keep the wells pumping at the lowest possible point, as they only fill up 7 and 8 feet with fluid. By the reversing method, that is putting the pressure in the casing and flowing the remaining fluid, which consists of floating sand, shale and oil up the tubing, we are able to remove all the debris in the well and pump it on bottom. But where the sand is very open, as at Burkburnett, pressure cannot be held and this method cannot be applied, and in such conditions the special tool is used.

During the first eight hours' cleaning with the special tool we removed about 15 bbls. of pure sand, and a total time of 23 hours was required to clean out the well after the special tool was used. The success of cleaning sand and other debris in this locality is proven, although the percentage of increased production has not yet been established in this district. Only two wells cleaned out. Owing to the fact that a great amount of water was used in experimenting and the water coming back into the shot hole, the oil has been retarded. However, it stands to reason that if we remove all the deposits from the bottom of the wells, and leave the walls of the sand clean and free from paraffin it will increase our oil production. The cost of cleaning two wells in Burkburnett by air was approximately $500 each, including fuel, labor, material, depreciation charges and royalty.

We have had numerous difficulties on the first well in the districts where we have used the machines, which is to be expected the same as on drilling wells and other operations in new territory. These difficulties, however, have in all cases been overcome in the first well.

The facts and figures given herein are entirely from the experience of the Tidal Oil Co. and do not include what others may have done.

At the same meeting a paper prepared by C. V. Millikan of the Amerada Petroluem Corp. was read. It was entitled, "Determination of Pay Strata in Oil Sands" and deals with the process evolved by Mr. Millikan of measuring the flow of gas from wells while drilling in.

Mr. Millikan conceived the idea of placing orifice meters on the line and observing the changes in gas pressure as the sand was being penetrated. He worked on the theory that gas and oil being together in the sand, the most porous horizons in the sand would be detected by the increased gas pressure recorded by the meter. The method was tested with very good results on the Amerada Petroleum Corp. lease in the Cromwell Field, and also on its lease in Tonkawa.

SMACKOVER DEEP SAND'S NEW RECORD

(Continued from Page 28)

Texas Co.'s No. 6 Berry, CSL SE NW Section 33; J. E. Crosbie's No. 6 Berry, CSL SE NW Section 33; Phillips Petroleum Co.'s No. 6 B. Joyce, SE NE Section 33; No. 7 Joyce, SE NE NE Section 33; No. 8 Joyce, SW SE NE Section 33; No. 9 Joyce, NE SE, Section 33; No. 10 Joyce, NE SE NE, Section 33; No. 12 Joyce, SW NE NE, Section 33; Marine Oil Co.'s No. 6 Snyder, NE NW SW Section 34; No. 7 Snyder, NW NW SW Section 34; Humble Oil & Refining Co.'s No. 4 Farris, CEL NE NW NW Section 34; No. 5 Farris, CSL SE NW NW Section 34; Standard Oil Co.'s No. 4 Powell, NW SE NW Section 34; Southern Oil Purchasing Co.'s (Standard of Indiana) No. 3 Joyce, SE SW NW Section 34, on the lease purchased from Dashko and others on which the big well was completed; Sure Oil Co.'s No. 2 Joyce, CNL W half SW NW Section 34; No. 3 Joyce, CSL W half SW NW Section 34; Simms Oil Co.'s No. 1 Effie Johnson, NW NE SE Section 34; same operators' No. 1 Williams, NW SE Section 34.

A month ago it was considered improbable that this part of the Smackover area would be in the deep sand zone of operations. Now there are 65 operations including derricks, rigged up and wells drilling, in the township, and this is only the forerunner of more. There is a fault line running east and west and extending across the Smackover Field into Columbia County which is expected to cut off operations in the deep sand. This fault is located less than a mile north of the present northern limit of wells drilling in the field.

OUTLOOK IMPROVING IS OIL CITY REPORT

OIL CITY, Pa., May 16.—There has been a considerable improvement in the refined markets of northwestern Pennsylvania during the past week and all connected with the trade are now agreed that everything looks good now if the improvement can only be held.

Gasoline is very active. The prices and demand are both very strong. The demand from the jobbers is very big as they believe higher prices are in prospect and are buying in anticipation of them. Consumption of gasoline by the motoring public has also increased during the week as better weather has prevailed since last Sunday.

The demand for kerosene is good. The price has not firmed up much, but the cheaper stuff now seems to be off the market and many believe it is at a place where the price may change.

The demand for fuel oil is a little better, but only slightly.

Wax continues to be very strong and in good demand.

On neutrals there is a division of opinion. Some believe they are in a better position. However, all agree they are no worse than they were a week ago. The price recession on these products has stopped and that is a good thing.

Cylinder stocks are better in both price and demand. The larger companies have been in the market recently and bought moderate amounts of cylinder stocks.

MAGIC OIL CO. FORMED

HOUSTON, Tex., May 18.—The Magic Oil Co. has been organized by C. N. Haskell, as president; W. L. Lynne, of Houston, vice president, and D. B. Vann Ness, second vice president. The company has leases in Walker, Zapata and Jim Hogg Counties which will be developed. The office is in Houston.

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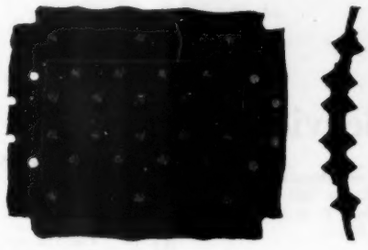

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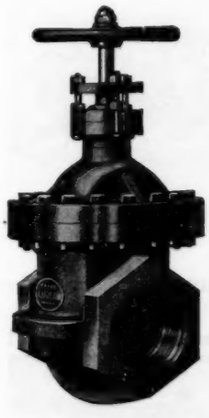

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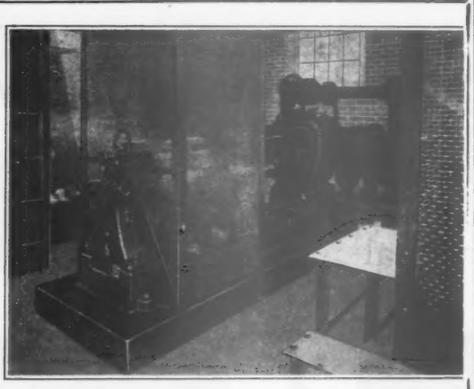

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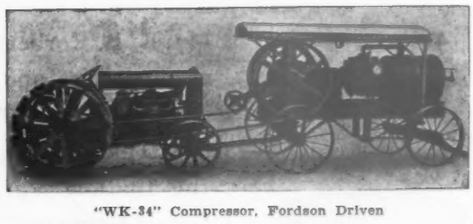

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SUCCESSFUL ROTARY DRILLING IN TUSTANOWICE FIELD, POLAND

By Roman Waaylewski
Boryslaw (Poland)

One can frequently read in the American oil and drilling publications that oil well drilling in Poland and particularly in Boryslaw is actually very costly and uneconomical, as the oil bearing formations are very deep and the completion of a well by the generally used Canadian Pole tool system at an average depth of 1,500 m (4,920 feet) requires under normal conditions four to five years. As to the other modern and rapid drilling methods one can meet with the opinion that the rotary and cable tool drilling systems are not suitable for the Galician oil fields on account of the geological peculiarities of these fields, particularly because the formations frequently are very steeply tilted and alternatively hard and soft and that on account of these difficulties the rotary tests in Poland gave no satisfactory result and all were failures.

The writer of this should like to be permitted to attract the attention of the American oil men to one rotary well being drilled by the Premier Oil Co. (French) in the oil field of Tustanowice near Boryslaw which can be called the first proper rotary test well in Boryslaw and is an obvious proof that rotary drilling can successfully be used also in the oil fields of Boryslaw. This is the well "Stateland XV" located in the southern part of the oil field of Tustanowice.

This well had been started in the year 1923 by cable tools and drilled to a depth of 168 m and then shut down in order to change from cable to rotary. The rotary drilling started from that depth on July 8, 1924 and the well is now (March 1, 1925) 1,109 m (3,637 feet) deep. One string of 10-inch casing has been set at 664 m (2,178 feet) and from that depth to the bottom the hole is free of casing. The hole was drilled with fish tail bits to 664 m and from this depth only Hughes Simplex Rock bits are used with very satisfactory results. The drilling was done to 717 m (2,351 feet) with 6-inch drill pipe and then with 4-inch drill pipe.

Detail of Drilling

In the time from July 1924 to February 1, 1925, 840 m (2,755 feet) of hole have been made. In this period 2,036 hours were used for drilling, 1,317 hours for running and pulling drill pipe, 14 hours for running casing, 55 hours for fishing job, 274 hours for repairs on engines and derrick, 234 hours for still stand on holidays and 250 hours were spent on account of the workmen's strike and water shutoff. The average footage per day was 4.56 m (15 feet). Water has been shut off at 664.47 m. (2,179 feet) and since that time there was no trouble with water. The hole was never crooked.

In the months of February and March, 1925, only a small drilling progress (328 feet) can be noted because they had to drill up one cone left on the bottom of the hole.

The mud used in drilling this well has an average specific gravity 1.4—when using thinner mud the walls of the hole

LOOKING TO AMERICA FOR LATEST IMPROVEMENTS AND BEST EQUIPMENT

Boryslaw (Poland) the 18th April, 1925.

The Oil and Gas Journal,
Tulsa, Okla.
Dear Sirs:

I am an enthusiastic reader of The Oil and Gas Journal, which keeps me in touch with the powerful development of the gigantic American oil industry, the mother and teacher of the oil industries in all other countries. As the first oil well drillers coming from America brought American drilling methods and American drilling tools to the farthest oil countries with them, so today the latest improvements in oil well drilling, the best oil well outfits and tools are coming from America and help in development of the oil fields the world over.

The most revolutionary improvement in the oil well drilling was the rotary drilling system which is now successfully used in almost all the oil producing countries of the world. Only in the oil fields of Poland, owing to various factors, the most important of which are lack of sufficient experience in this line, the fear of failure in operating by a system unknown to the Polish drillers and, last not yeast, the lack of sufficient capital, which would permit to bring from America all the necessary outfits, engines and tools—the rotary drilling is still almost unknown to the Polish drillers and could not yet supersede the generally used, very slow and costly Canadian system. And even in the American reports pertaining to the Polish oil fields one can meet with the opinion (based, I will suppose, only upon some erroneous information) that the rotary drilling system cannot overcome the special difficulties of the Galician geological structures (as I found it in the article "Drilling Activity in Poland" in The Oil and Gas Journal of December 18, 1924).

In order to correct this opinion and make the American oil men acquainted with the successful possibilities of the rotary drilling in Poland which alone can render more economical the exploitation of the proved areas and accelerate the exploration of the new prolific oil fields in this country, I beg to send you enclosed my report about one very successful and encouraging rotary drilling in the oil field Tustanowice and request you will please publish it in your esteemed Oil and Gas Journal.

I beg to hope this article will be of some interest for the readers of The Oil and Gas Journal who follow the development of the oil industry also in other countries and particularly for the American oil companies interested in the Polish oil industry or those that intend to drill for oil in Poland.

I have written this article in the first of April and therefore it includes the time only till March 31, 1925; being very much engaged I had no time to copy and mail the same earlier. The well described therein is today (April 18) 1,142 m (3,745 feet) deep.

If I can serve you for any further information regarding the Polish oil industry I am at your disposal and awaiting the favor of your esteemed reply, I remain, dear sir,

Yours very faithfully,
ROMAN WASYLEWSKI,
Official of the "Premier" Oil Company.
Boryslaw (Poland).

See for Yourself

The scheme of life is arranged so that some men have capital and want leases, production or equipment, while others have salable articles and need cash.

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THE OIL AND GAS JOURNAL

Classified Wants Section

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began to cave. The most drilling was done with the rotary speed of 33-35 R. P. M. The faster speed (as recommended for the American oil fields) resulted as not advisable for drilling in Boryslawer formations as the hole making was slower and the cones wore out earlier.

The encountered formations were: Till 160 m, upper cretaceous; from 160 m to 240 m, lower eocen; from 240 m to 380 m, bituminous sandy shale and brown shale; from 380 to 1,080 m upper oligocen (Dobrotower formations; gray sticky shale, sandy shale and sandstone. In the sandstone encountered in these formations the spaces between the grains are filled with lime which makes it compact and very hard). The most difficult structure was from 650 to 800 m (from 2,132 to 2,624 feet), where the bit had to go through very hard sandstone strata tilted sometimes at an angle of 70 degrees and often separated by thin layers of soft sticky shale or sandy shale. From 1,080 m there are bituminous sandy shale and gray sand.

The company intends to go down with rotary to 1,300 m (4,270 feet) and then run in 7-inch casing and set it at this depth, whereupon the hole will be deepened to 1,350 m either by rotary or cable tool drilling. At 1,350 m (4,430 feet) the well will reach the Boryslawer oil sand where production is expected.

American Trained Drillers

It must be remembered that all drilling work on this well was done by native labor and Polish drillers who have been trained by the American drillers in drilling another rotary well "Stateland XVL" which had to be abandoned on account of a very long and unsuccessful fishing job.

Resuming one can say that the rotary oil well drilling if properly operated in taking into consideration the special and characteristic features of the Boryslawer formations can be used successfully also in the oil fields of Poland. As to the Boryslawer drilling conditions which are the most difficult ones in the world, in using either the rotary or the combined rotary and cable tool system the depth of 1,500 m (4,920 feet) can be reached and the well completed in 12 to 15 months, which means only one-third of the time required for the completion of a Canadian well.

NEW CRACKING UNITS WILL BE INSTALLED

GREAT FALLS, Mont., May 16.—Plans to install a new steam still and agitator at the plant of the Great Falls Refining Co. are being made by officials of the company. The improvements will be made so the plant can treat Kevin-Sunburst crude oil at the rate of 600 bbls. daily, according to L. D. White, superintendent.

The company has elected five new directors, as follows: S. R. Jenson, Gust Nilson, L. C. Sheu, E. J. Dugas and C. W. Hay. The company is a reorganization of the American Refining Co.

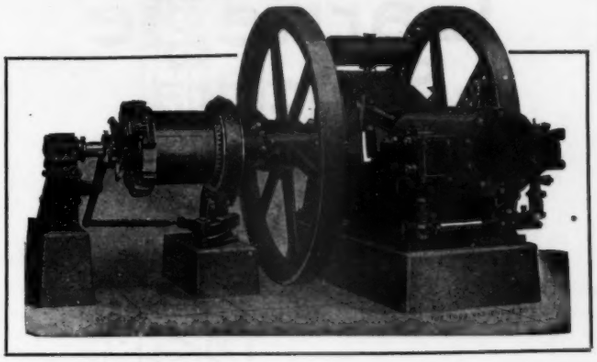
PIONEER TANK BUILDER

HOUSTON, Tex., May 16—John Hines, aged 70, one of the few surving tank builders of the early days in the oil industry, died at a Houston hospital and was buried here. He was employed by the Petroleum Iron Works of Sharon, but of late years had been assigned to light tasks. He was born at Washington, Pa., and had helped erect tanks in every field in the East, beginning at Olean, N. Y., in 1879 when he was employed by J. S. Cullinan. He came to the Southwest in the early days of the development. A. M. Johnston, general manager of the Petroleum Iron Works in the Southwest, took charge of the interment.

BEACON OIL WINS VERDICT

BOSTON, May 16.—Jury in Federal Court returned a verdict of $2,870 in favor of the Beacon Oil Co. in its suit for $1,000,000 against International Paper Co., alleging failure to accept in 1921, delivery of 282,000 bbls. of oil contracted for.

THE FOOS



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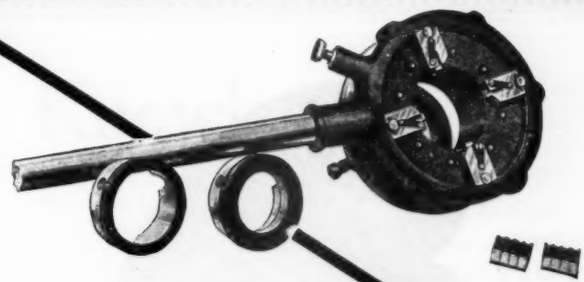

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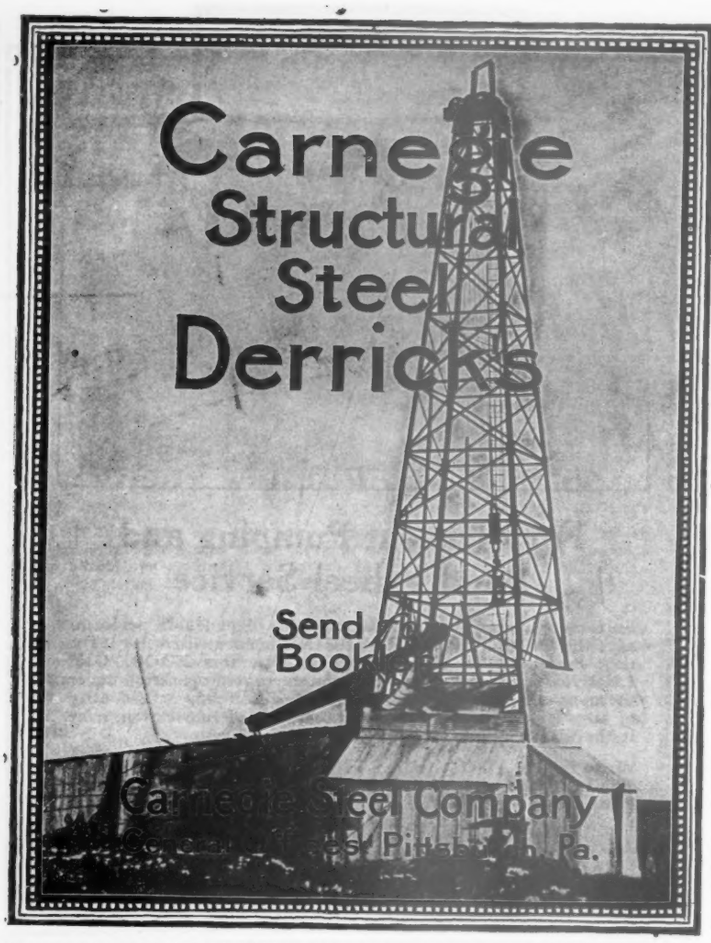

General Conference Of Standardization Committees Called

A general conference of all standardization committees of the American Petroleum Institute will be held in Dallas on June 15, 16 and 17. There are at present 10 active committees dealing with various standardization projects as follows:

Special Committee on Standardization of Specifications for Steel and Iron Pipe for Oil Country Tubular Goods, J. Edgar Pew, vice president Sun Oil Co., Dallas, Tex., national chairman.

Master gauges for American Petroleum Institute casing are now being manufactured. It is expected that delivery of the first set for a large manufacturer of pipe will be made early in June. Other manufacturers have indicated their intention of ordering gauges and completing their equipment to manufacture A. P. I. pipe as quickly as the demand justifies. Anyone desiring to order A. P. I. casing can secure further information on this matter from the Dallas office of the Division of Standardization, 1103 Santa Fe Building.

Special Committee on Standardization of Rigs Irons, H. J. Lockhart, assistant to president, Parkersburg Rig & Reel Co., Parkersburg, W. Va., national chairman.

Special Committee on Standardization of Wire Rope and Manila Cordage, C. C. Scharpenberg, assistant manager, Standard Oil Co. of California, Bakersfield, Calif., national chairman.

Special Committee on Standardization of Standard Rigs and Derricks, W. W. Fondren, vice president Humble Oil & Refining Co., Houston, Tex., national chairman.

Special Committee on Standardization of Pumping Equipment and Engines, as applied to the production of oil, A. V. Hoenig, vice president, Carter Oil Co., of Parkersburg, W. Va., national chairman.

Special Committee on Standardization of Rotary Drilling Equipment, Capt. J. F. Lucey, president Lucey Petroleum Co., 1405 Magnolia Bldg., Dallas, Tex., national chairman.

Special Committee on Standardization of Belting, A. H. Riney, chief engineer, Phillips Petroleum Co., Bartlesville, Okla., national chairman.

Special Committee on Standardization of Oil Field Boilers, A. B. Steen, chief engineer, The Texas Co., Houston, Tex., national chairman.

Special Committee on Standardization of Steel Storage and Production Tanks as applied to the production of oil, G. M. Vandaveer, superintendent pipe line department, the Midwest Refining Co., Casper, Wyo., national chairman.

Special Committee on Standardization of Cable Drilling Tool Joints, Thomas Fleming, Jr., vice president Oil Well Supply Co., Pittsburgh, Pa., national chairman.

There are over 300 executives, engineers and manufacturers actively serving on these committees. Each geographical oil district is represented on each committee, as well as the principal manufacturers. Numerous meetings have been held by the various district committees since the last national American Petroleum Institute meeting at Fort Worth in December.

It is the intention of this June conference to head up all the work that has been accomplished since December. A complete program covering this conference is now being prepared.

CRUDE DUE FOR RISE JOHN P. HERRICK'S VIEW

CASPER, Wyo., May 16—"The feeling in the East is that crude has hit bottom and the next move will be upward in price of high grade crudes with a high gasoline content," declared John P. Herrick, of Olean, N. Y., chairman of the board of directors of the New York State Oil Producers Association, upon his arrival in Casper to attend a meeting of the board of directors of the New York Oil Co.

"This advance, it is believed, would

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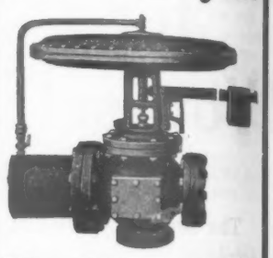

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have taken place before but for the flooding of the market by the oil from the Smackover Field," continued Mr. Herrick, who, while in Casper, will visit the Salt Creek Field and other oil producing regions.

"It is not generally known that there are 14,000 oil wells in the State of New York," said Mr. Herrick. "They are situated in the northern extension of the Appalachian range extending from Alleghany County, New York, to the Kentucky line, embracing in all 121,000 wells which produce high grade crude oil. This oil brings the highest price because of the superior quality of its lubricating products. The producers of the Appalachian range have launched a nation-wide advertising campaign to make the public better acquainted with the high grade crude oil product.

"The producers have adopted the trademark, '100% Pure Pennsylvania,' which is printed on every container. One of the odd things which developed during the market survey, was that the State of California is the biggest consumer of '100% Pure Pennsylvania.' This advertising campaign does not interfere with the other oils for reason that the crude oil wells are small and the output limited.

"This advertising campaign is financed jointly by the producers and refiners by payment of 1 cent a barrel on all crude oil."

Mr. Herrick was enthusiastic about the outlook for the oil industry and stated that conditions are improving.

COMMISSIONER NAMED IN MISSOURI OUSTER

JEFFERSON CITY, Mo., May 16.—Additional hearings in the State's anti-trust ouster suit against the Standard Oil Co. of Indiana was authorized by the Missouri Supreme Court when the court appointed E. M. Tipton, attorney of Kansas City, a special commissioner to take further testimony in the case.

In naming the commissioner the court granted a motion filed by the oil company April 15, requesting the appointment of a commissioner and the further taking of testimony.

The ouster suit against the oil company was set for argument before the supreme Court here last week, but the appointment of the new commissioner will suspend the hearing of the case for weeks and perhaps months, it was said.

Former Attorney General Jess W. Barrett filed the anti-trust ouster suit against the Standard Oil Co. in the Missouri Supreme Court in September of 1924, alleging that the company was violating the Missouri anti-trust laws, attempting to monoplize the sale of gasoline in this territory and maintain an excess price.

The suit was filed following a series of hearings here before DeWitt C. Chastain, attorney of Butler, Mo., who was named a special commissioner by the supreme court to hear evidence to allow the attorney general to determine whether or not a suit would be justified against the oil company.

OKLAHOMA'S OIL REVENUE

OKLAHOMA CITY, Okla., May 18.—W. A. Durant, secretary to the Commissioners of the Land Office, has placed a valuation of $20,000,000 on the State's royalty interest in 225,000 acres of land under lease for oil and gas purposes, and $20,000,000 on the royalty interest in about 500,000 acres of land not leased for oil and gas purposes. These figures make a total valuation of $84,318,146 on the State's land estate, including farm loans and money due on land sold. From oil bonuses, royalties and rentals the State last year received in round numbers about $1,000,000.

KENDRICK SALES MANAGER

Kendrick Oil Co. announces the engagement of Homer J. Smith as sales manager. Mr. Smith, until recently, was sales manager for the Waite Phillips Co., from which position he resigned two weeks ago.

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Since 1845
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Fill in burned out section of your brickwork with a mixture of equal parts ADAMANT and crushed fire brick bats.

Patch Those Holes
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Don't permit those small holes in your boiler settings or other fire brick construction to grow.

An ideal material for patching holes and depressions is a mixture of crushed fire brick and ADAMANT Fire Brick Cement.

Fill in burned-out sections of your fire brick construction with this inexpensive but effective mixture.

It will prolong the life of many a fire brick setting that would otherwise have to be torn out and replaced.

There is an ADAMANT dealer near you, who will gladly arrange for your trial of ADAMANT, and explain its uses as a bond, a facing, and as a patching material.

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PETROLEUM INDUSTRIES PROTEST BRIDGE PLAN

NEW ORLEANS, La., May 18. Probable hindrance to the development of the petroleum industries at New Orleans is the basis of a protest of the American Steamship Owners' Association to the Secretary of War against present plans for a proposed bridge across the Mississippi River, 2 miles north of New Orleans.

Petroleum industries interested include the refinery of the Standard Oil Co. of Louisiana, near Baton Rouge, and a loading terminal at Avondale; the refinery of the Mexican Petroleum Co. at Destrahan; the plant of the New Orleans Refining Co. at Sellers, and a loading terminal and barrel, case and can plant of the Carson Petroleum Co. at St. Rose. All these industries are above the site of the proposed bridge.

The formal protest points out that crude oil not only reaches these refineries and loading plants by pipe lines from the oil fields of Louisiana, Arkansas and Oklahoma, but large quantities are brought by sea-going tankers from Mexico and South and Central America. Also, refined products and residual fuel oil, as well as crude oil from pipe lines and storage, are carried down the river by sea-going tankers and are transported to coastwise ports of the United States and to foreign markets.

The association shows that this ocean going traffic has increased until during 1924 there were transported to and from the points above the proposed site of the bridge more than 5,000.000 tons of crude oil and petroleum products, involving approximately 1,474 passings of the proposed bridge site.

It is claimed all this traffic would be limited as the bridge as planned would have too low clearance to allow tankers to go under.

NEXT REFINERY VISIT TO BRADFORD PLANTS

BRADFORD, Pa., May 18.—Members of the National Petroleum Association will hold their next refinery visit at Bradford, May 27, according to the regular bulletin of the association. The members will visit the Emery Manufacturing Co., the Kendall Refining Co., and the McKean County Refining Co.,

At the Emery plant, the visitors will inspect the special tube still for topping Pennsylvania crude. The Kendall refinery has a centrifuging plant and a new boiler installation of interest, while the McKean County plant has a new gas recovery system.

WORK BEING RUSHED ON TORONTO REFINERY

TORONTO, Canada, May 18.—Construction of the new refinery for McColl Brothers, Ltd., at Toronto is being rushed. When completed the plant will claim to be the most modern in existence for its size. The design of the plant takes full advantage of all possible improvements in handling of crude oil. Particular attention has been paid to the layout with a view to operating with a minimum number of men and a maximum efficiency of fuel.

The plant is designed so it can be doubled in capacity with a comparatively small additional investment.

FREAK WELLS EXCITE FOLK OF TYLER, TEXAS

SHREVEPORT, La., May 16.—Tyler, Tex., is considerably stirred up over a number of freak wells which have been developed in or near the town and its citizens are anxious for an investigation determining the real character of the oil and its most probable origin.

A shallow water well, about 10 feet deep, in the back yard of a negro named Brandon, furnished good water for household purposes until February 6, 1925,. when suddenly oil showed up in it and from 20 to 25 gallons a day was produced. Another well was dug about 100

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feet distant, which is making oil of a similar but slightly different quality, and the city then drilled a well not far distant which is producing oil of a like nature.

Three seeps or springs near these wells are also making oil, one showing considerable b.s., which is absent in all the others, and in a sand bank nearby is found black oil, while the production from all the other wells is very light in color. A mile distant, in an abandoned water well, is found a dark brown oil, which analyzes about the same as the light colored oil, an analysis made by Dr. Albert Salathe, of Centenary College, pronouncing it about 42 gravity with 92 per cent kerosene and 8 per cent lubricating oil.

A similar oil seep was found 7 miles north of Tyler, near a spring on the farm of Hudson Butler, and another 10 miles east of Tyler, and on Week's Island, near Morgan City, La., a well is said to be making 2 or 3 bbs. a day of oil of this description. A number of other wells of this nature are on record and Tyler citizens, while naturally hoping for development of importance, are putting all their cards on the table and offering the fullest cooperation in a full and fair investigation by real oil people.

Judge J. W. Periman was sent to Shreveport by the Tyler Chamber of Commerce to acquaint the people of Shreveport with the facts as known by Tyler citizens and the Shreveport Chamber of Commerce has arranged to stop for a day at Tyler on its good will tour. A report that the oil is coming from a nearby tank or filling station has been refuted as unreasonable.

RATES TO TEXARKANA SET BY COMMISSION

AUSTIN, Tex., May 16—The Railroad Commission has approved an application of carriers to fix special rates to Texarkana, Tex., on petroleum and its products, except casinghead gasoline and liquified petroleum gas, to meet the low rates in effect to Texarkana, Ark. From the North and Central Texas fields the rate is to be 25 cents, from West Texas fields, it is to be 28½ cents and 29½ cents, from the Port Arthur section it is to be 30 cents, from Brady and similar points 30½ cents, from Luling and adjacent places 35 cents, San Antonio and Somerset 27 cents and Laredo, 40 cents.

These rates are adopted to equalize dealers on the Texas side with those in the Arkansas part of Texarkana. In former days the out-of-State points complained of the rate advantage held by the Texas towns. Conditions have been reversed at Texarkana as the Texas city has been placed at a disadvantage. Rates to intermediate points will not be affected by the new order.

THREE TOPPING UNITS FOR ARGENTINE PLANT

NEW YORK, May 18.—The Power Specialty Co., of New York has just completed the design of three topping units for the Compania Ferrocarrilera de Petroleo of Buenos Aires, Argentina, and the manufacture of the necessary equipment is being rushed. Each unit will comprise a Foster heater and separating tower, liquid heat exchangers and shell and tube type condensers. Each will have a capacity of 1,500 bbls. of oil daily with 15 per cent of oil and 10 per cent of water as overhead.

The plant will be called upon to handle a crude oil containing an average of 10 per cent water and basic sediment. To reduce to a minimum the possibility of corrosive action, the crude first will be heated through heat exchangers to a temperature which will permit the major portion of the water to settle out prior to the actual distillation process.

The units have been designed so that with minor changes they can, if desirable, be adapted for the prduction of charging stock for cracking units, although the capacity will be reduced somewhat.

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Production Problems To Be Considered at Geologists' Meeting

The program of technical papers at the 1926 meeting of the American Association of Petroleum Geologists will contain several innovations, according to R. B. Whitehead of Dallas, Tex., chairman of the program committee of the association. Because many geologists are being advanced to executive positions in large companies and others head their own producing concerns, a number of subjects dealing with production problems will be included in the program next year.

The geological papers will come under four general subjects, as outlined by Mr. Whitehead. These are:

"Micropaleontology as Applied to the Oil Business," "Scientific Instruments in Use for Locating Structures," "A Symposium on the Origin of Oil," and "Core Drilling for Structures." Specific subjects are being selected and the members of the association who are best fitted to discuss them will be invited to prepare the papers.

The 40 members of the Dallas Geological Society met May 4 and decided to invite the 1926 meeting of the national association to Dallas. In presenting their invitation to the committee they will point out the fact that the new Baker Hotel will be completed by the first of the year, and the management has already promised to reserve 450 of the 700 rooms for the convention guests. The hotel will have a convention hall with a seating capacity of 1,000 and also a banquet room 145 feet by 55 feet in size capable of seating 1,200 persons. The new Dallas Athletic Club has also been completed.

WICHITA FALLS CLUB HEARS THE GEOLOGISTS

WICHITA FALLS, Tex., May 16.—Basic conditions governing geology were discussed by M. G. Cheney, consulting geologist of Graham, and other geologists before the Wichita Falls Technical Club.

Mr. Cheney declared that oil was formed by vegetable and animal matter deposits in the mud or shale under the sea which once covered this part of the country and the basis of the the present oil supply is from the mud strata subject to relinquished pressures. Oil strata in Texas that were once more than a mile long have been depressed into half that length and this tremendous depression acted on the vegetable and animal matter much as a still operates—distilling the matter into oil. Oil and water escaped from the shale into the sand strata and traveled in these strata until they struck an upper bow in the stratum and gathered.

Mr. Cheney stated that a mountain probably a mile high, once stood near Petrolia and mountains 4 and 5 miles high once existed in Oklahoma, according to geological evidence.

"Geologists can only reduce the probability of a dry hole in wildcat drilling," M. M. Garrett, geologist, said, explaining the recent work in locating salt domes in the coastal regions by use of the seismograph and the torsional balance.

"The method of using the seismograph is to establish a number of the instruments at intervals in suspected territory and explode charges of dynamite, buried 5 or 6 feet under ground, to create earth waves. The salt domes are of a different texture from the rest of the earth and deflect and return the waves.

"The torsional balance is extremely sensitive and large masses of any particular substance cause a deflection of the needle from the balance. Fourteen salt domes were located on the coastal region by this method recently."

C. W. Clark, consulting geologist, declared that "exhausted oil fields, tracts that now seem barren liabilities, may some day bloom once more as hidden mines of wealth." He predicted that oil mines would soon come into wide use for the reclammation of petroleum fields now

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regarded as worthless. In various parts of Europe and in Kansas, experiments have been conducted with oil mines. The idea had not been found practicable in deep fields but in shallow pools, large amounts of oil have been reclaimed by sinking shafts through and below the oil oil bearing strata, tunneling out beneath and drilling downward into the tunnel, where it can be collected.

I. R. Sheldon, chief geologist of the Texhoma Oil & Refining Co., stated that of the 275 wildcat wells drilled in Wichita and Archer Counties last year, only 10 were producers.

NEW NORTH TEXAS POOL ATTRACTING OPERATORS

FORT WORTH, Tex., May 16.—A number of the major oil companies as well as quite a few of the smaller and independent operators apparently are being attracted to the new territory recently opened up in southeastern Archer County by the Major Petroleum Co. The new field now has three producers making an aggregate of 365 bbls., daily from the sand around 1,080 to 1,090 feet.

Production in this area was found a year ago by the Major Petroleum Co. at 1,025 feet but the wells were only small producers in this sand and all the wells now producing are deepened wells. The field is located about 3 miles northeast of the town of Annarene, on the Jefferson County school lands, Sam Cowan fee. The nearest production is 3½ miles to the southeast in the Reed Pool, where there are several wells producing from 2 to 3 bbls. daily from around 900 feet.

Oil from this field, which tests 40 gravity is being run by The Texas Co., which laid a 6-mile line of 3-inch to connect with the new pool. The Major Petroleum Co. has two wells, No. 1 Cowan, which got the top of the sand at 1,079 feet and drilled to 1,085 feet, is making an average of 150 bbls. The same company's No. 3 Cowan which has only 2½ feet of sand topped at 1,078 feet is pumping at the rate of 80 bbls.

Jack Clark's No. 1 Cowan, on an offset 40 acres, to the south, is also a good producer. It is pumping at the rate of 135 bbls., daily from sand topped at 1,082 feet and drilled to a total depth of 1,092 feet. Two other locations have already been made on the Cowan lands, that of the Simms Oil Co., 150 feet west of the middle of the east line of Block 63 and that of Carter and others in the southeast corner of the northwest 40 acres out of block 41, Cowan lands. Burns and others of Wichita Falls have also made a location 2 miles to the east on the J. Longley fee.

Several individuals and oil companies either had protection or have recently purchased nearby acreage. Among them are the Tidal Oil Co., the Gulf Production Co., John O'Donohoe of Wichita Falls, Simms Oil Co. and the Superior Oil Co.

APRIL AUTO OUTPUT REACHES NEW RECORD

Production of motor cars in April totaled 420,373, a new high record, 43,000 more than in March, this year, and 35,000 more than in April, last year, according to the National Automobile Chamber of Commerce. The previous high record was 404,450, in May, 1923.

This makes the total production for the first four months of this year 1,325,462 cars and trucks, the figures being: January, 240,950; February, 287,019; March, 377,120; April, 420,373.

MADE VICE PRESIDENT

The Independent Oil & Gas Co. of Okmulgee, Okla., announces that Wade H. James, general counsel of the company, has been made vice president, succeeding J. W. McCullouch, who recently resigned. Mr. James was formerly secretary-treasurer of the Independent.

Russell M. Riggins, formerly assistant secretary-treasurer of the company, has been made secretary-treasurer, and he is succeeded as assistant secretary-treasurer by Lucien F. Craig.

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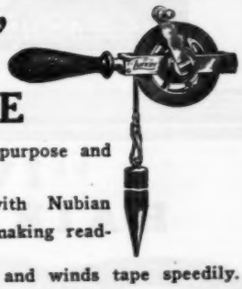
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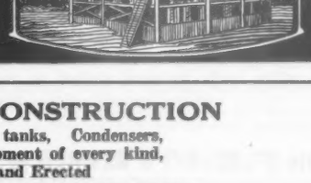

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CALIFORNIA PAYING MORE GASOLINE TAX

SACRAMENTO, Cal., May 18—Gasoline taxes to be collected by the State in 1925, will total $15,700,000, an increase of $1,079,475 over 1924 collections, according to an estimate made public by the State Board of Equalization.

For the first three months of 1925, the revenue from the 2-cent per gallon tax totaled $3,449,077.39, a gain of $120,302 over the receipts from the first quarter of 124. 9The gasoline consumed by motor vehicles in the three months of this year totaled 172,449,869.5 gallons, an increase over the same period in 1924 of 3½ per cent.

The four large oil companies of the State show comparative deliveries for January, February and March as follows:

	1924 Gallons	1925 Gallons
Standard	48,530,752	47,094,063
Shell	25,507,891	26,775,006
Union	20,293,734	19,504,025
Associated	19,557,127	19,341,950

The statement issued by the Board of Equalization declared that the 6,015,109 gallons increase in the amount of gasoline used by motor vehicles during the first quarter is relatively small when compard to the increase in the automobile registration in California.

Half of the money derived from the 2-cent gasoline tax goes to the State and half to the counties and is used exclusively for repair and maintenance of the State highways.

APPEAL TO BE FILED BY GORDON CAMPBELL

GREAT FALLS, Mont., May 16.—Gordon Campbell, found guilty of illegal use of the mails in promoting an oil syndicate, will appeal to the circuit court at San Francisco. Campbell was sentenced to serve two years in Leavenworth and pay $1,000 and costs.

Federal Judge George M. Bourquin allowed a stay of execution so defense could prepare an appeal. Bond of $2,500 was furnished by Campbell.

The jury was out 29 hours. Campbell is under another indictment in the District of Columbia with Senator Wheeler and E. S. Booth, former solicitor of the Interior Department, charged with conspiracy to secure Federal land by fraud.

Campbell was indicted April 8, 1924, by a grand jury in connection with his promotion of the Gordon Campbell-Kevin Syndicate No. 2. The Government charged Campbell falsely advertised the value of oil lands and misappropriated the syndicate's capital in paying for advertising and promotion.

Charles Bloomhuff and M. J. Dailey, former associates of Campbell, also indicted, were the principal witnesses against him.

TO SPEED CASPER REFINERY

CASPER, Wyo., May 18—With crude from the Moffat oil field now available The Texas Co.'s refinery at Casper will speed up operations after being running only part time for a long time. The Prairie Oil & Gas Co.'s option on the Moffat production has expired and the last shipment has been made to the Producers & Refiners plant at Parco, Wyo., under the Prairie's contract. From now on the crude will be run by the 17-mile pipe line to Craig, Colo., where it will be loaded in tank cars and shipped to Casper.

OPENS OKMULGEE OFFICES

J. W. McCullouch, former vice president of the Independent Oil & Gas Co. of Okmulgee, Okla., who recently resigned to enter the oil business as an individual, has opened offices in the Commerce Building at Okmulgee. Frank Quinn, veteran of the Okmulgee district, has joined the newly formed McCullouch organization as field man.

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Detailed Operations in Eastern Fields for April, 1925

EASTERN FIELDS

Summary of Field Operations

Field—	Comp.	Prod.	Dry	Gas
Allegany	27	47	0	0
Bradford	94	220	1	0
Middle Field	4	5	0	0
Venango-Clarion	37	61	3	4
Butler-Armstrong	18	20	3	5
Southwest Pennsylvania	17	37	2	7
West Virginia	98	217	16	54
Southeast Ohio	79	997	16	9
Total April	374	1,604	41	79
Total March	275	1,059	35	71
Difference	99	545	6	8

Rigs and Wells Drilling

Fields—	Rigs	Drg.	Ttl.
Allegany	9	21	30
Bradford	29	103	132
Middle Field	0	7	7
Venango-Clarion	0	33	33
Butler-Armstrong	10	23	33
Southwest Pennsylvania	8	28	36
West Virginia	60	166	226
Southeast Ohio	41	84	125
Total April 30	157	465	622
Total March 31	154	415	569
Difference	3	50	52

WELLS COMPLETED

ALLEGANY FIELD

McAndrew, E. J. Atwood et al 1
Brown Land & Oil Co. & L. H. Thornton and agent, First Trust, Wellsville et al 1
Trask, J. A. Withey et al 1
Fee, Empire Gas & Fuel, Ltd, et al .. 5
Fee, Empire Gas & Fuel, Ltd. 2
Norton, First Trust & Richardson .... water
Ried, Agt., Randall & McEnroe ..... water
Reid, Agt., Citizens National Bank Wellsville et al, 5 2
Fee, Phillips & Howard ..... water
Fee, F. J. Woodard et al 1
Murphy, First National Bank, Shinglehouse and Murphy 1
Fee, Hannifan et al 1
Fee, L. W. Shaner et al 5
Fee, R. J. Dermitt 3
Fee, Henline et al 2
Fee, E. J. Phillips et al 3
Smith & Grey, J. B. Grey 2
Fee, T. J. Gilligan et al 6
McDermitt, Wilbart Oil 3
Fee, L. C. Whitford et al 1
Fee, Sadie Sawyer 2
Fee, C. W. Mead 2
Kinley Oil, W. J. Weller et al 1
Kinley Oil, W. J. Weller et al 1
Kinley Oil, W. J. Weller et al ..... water
Fee, C. L. Childs 1
Fee, A. C. A. Oil Corp. 1
Wells completed 27
Production 47
Water 4

BRADFORD FIELD

Howard, Pressure Oil 5
Duke, Gridiron Oil 2
Borden, Rapp & Schwab 2
Borden, T. B. Wilson 2
Duke, Duke & Blair 2
Chambers, Schorman & Williams 3
Norton, Kahle Oil 3
Hahnes, Coast & Storms 2
Baldwin, Forest Oil 3
Porter, Forest Oil 2
Porter, Forest Oil 3
Noble, Porter Oil 3
Irvine, C. E. Potter 2
Burns, A. E. Yahn 3
Baldwin, C. B. Kervin 2
Duke, Jeutter & Mitchell 2
Duke, Staley & Thomas 2
Griffin, Cooper & Simpson 2
Farr, G. S. VanVetchen & Son 2
Sill, Hope Oil 2
Sill, Hope Oil 2
Garlock, Denwood Oil 1
Hodge, South Penn Oil 2
Fee, Evans & Wood 1
Corwin, J. H. Gallagher 1
Pratt, Petroleum Refining 1
Pratt, Petroleum Refining 1
Fee, F. S. Boquin 2
Bingham, H. B. O. 1
Rew, Lincoln et al 2
Jack, J. & H. M. Jack 1
Campbell, F. W. Calkins Trustee 1
Chamberlain, Whitehead & Carson 2
Ekas, R. C. Lloyd 1
Fee, Skaggs Bros. 2
Bingham, D. W. Daly 1
Nesselson, Nesselson Bros. ..... dry
Nolan C. Nolan 2
Roggenbaum, J. Roggenbaum 2
Lafferty, George & George 2
Melven, South Penn Oil 1
Rhodes, G. L. Rhodes et al 1
Wright, Elder & Digel 1
Lawton, Oil City Trust 1
Weston Jr., Tr., South Penn Oil 85 .. 10
Weston Jr., Tr., South Penn Oil 84 6
Riddell Est., South Penn Oil 46 3
Windsor, Wilson & Co. 6 1
Burns, et al., E. J. Burns 28 4
Fee, J. H. Brahaney 43 2
Fee, South Penn Oil 15 1
Fee, E. L. & F. J. Shippey 13 1
Fee, A. Schorman 17 1
Fee, E. A. Potter, 2 2
Franchot, D. & P. Oil 23 1
Fee, Jeutter Bros. 9 2
Franchot, T. P. Thompson 7 1
Drake heirs, Hannon Oil 5
Griffith et al, Hertzel & Knabb 2
Leasure, South Penn Oil 2
Fee, L. G. Dana 4
Fee, A. A. Park 12 1
Clark, Clark & Marsh 2
Fee, South Penn Oil 91 2
Bing, 88, South Penn Oil 10 4
Fee, South Penn Oil ..... water
Fee, Barry est. 2
Bing, 405, South Penn Oil 2
Bing, 423, South Penn Oil 2
Bing, 439, South Penn Oil 5
Bing, 554, South Penn Oil 3
Bing, 582, South Penn Oil 5
Bing, 439, South Penn Oil 78 8
Bing, 533, South Penn Oil 70 6
Bing, 570, South Penn Oil 104 2
Bing, 533, South Penn Oil 68 ..... water
Bing, 439, South Penn Oil 77 6
Bing, 499, South Penn Oil 39 2
Bing, 581, Associated Prod. 339 10
Bing, 593, P. C. Oakes & Son 22 2
Bing, 580, Associated Prod. 343 10
Bing, 532-554, South Penn Oil 40 1
Bing, 369, South Penn Oil 11 1
Smith, South Penn Oil 115 1
Bing, 423, South Penn Oil 10 1
Moody 57, South Penn Oil 14 1
Curtiss & Imus, South Penn Oil 40 1
Burdick, South Penn Oil 46 1
Lee, Hallock & Weston, So. Penn Oil 87 1
Dent, South Penn Oil 91 1
Fitzgerald, South Penn Oil 15 1
Melvin, South Penn Oil 187 1
Bing, 88, South Penn Oil 10 2
Pittinger, South Penn Oil 12 1
Wells completed 94
Production 220
Dry 1
Water 2

MIDDLE FIELD

Jennings, C. E. Carnahan 32 1
Bingman, Rocky Grove Oil 13 2
Bauer, Johnson Bros. 1
Columbia, Ruhlman & Grosch 1
Wells completed 4
Production 5

VENANGO-CLARION

Knapp & Preston, Flack & Kurtz, 7 ... 1
Stevenson, Midland Oil Corp. 36 1
Stevenson, Midland Oil Corp 37 1
Osborne, Carrie W. Tracey 26 2
Rice & Thompson, Rice & Thompson 2 1
Hovis, Hovis & Surrena et al 26 1
James, McKim, Titus et al 5 ..... dry
Cox, Rossman & Turner 1 10
Blair, C. B. Reeves 39 1
Hasson, Ed Siederman 49 3
McCalmont 225 acres, S. P. McCalmont Est. 45 2
Sayers, Kelley heirs & Hoffman 10 ... 2
Dreibelbis, J. G. Dreibelbis 6 1
Surrena, C. Surrena 6 5
Corneen, Brandred Oil Corp. 69 1
Kern, C. B. Kern, 11 1
Zimmerman, Adam Zimmerman & Sons 6 1
Crystal Springs, Jackson Oil & Gas 8 1
Webb, Murphy, Torrey et al 19 2
Phipps, M. Phipps Sons Co. 5 3
Weller, I. N. Lukin 4 2
Weller, I. N. Lukin 5 2
Mercer—
Drake, Bunny, Gilson et al 5 1
Clarion—
McCauley, Passeur & Isherwood 3 .... gas
Kahle, A. D. Shorts et al. 3 2
O'Neill Bros., D. & H. O'Neill 2 3
O'Neill Bros., Alum Rock Gas 1 5
Kenemuth, Alum Rock Gas 4 ..... dry
Knight, J. N. Campbell 6 1
Brown, Bowser et al., B. F. Kribbs 4 dry
Borrech, H. L. Conver & Morgan 1 ... gas
Knappenberger, J. W. Knappenberger 1 2
Stewart, Shannon & Crist 2 ..... gas
Reed tract, Levi & Co. 2 1
Wilson, W. W. Wilson 1
Wilson, W. W. Wilson ..... gas
Hoover, D. B. Shields et al 4 1
Wells completed 37
Production 61
Dry 2
Gas 4

BUTLER-ARMSTRONG

Wylie heirs, Saxonburg L. & H. 2 .... dry
Woods, Woods & Heeter 2 ..... dry
Lackey, Saxonburg L. & H. 1 ..... gas
Norris, American Natural Gas 1 ..... gas
Delaney, Delaney Bros. 1 ..... gas
McCarren, Lang & Co. 2 ..... gas
Gallagher, Shields & Co. 1 ..... gas
Duncan, Duncan, Meeder et al 6 1
Goehring, J. A. Elliott 3 3
Wilson Est., E. H. Hutchinson 3 .... dry
Peffer, E. Z. Peffer 4 2
Sloan, Porterfield & Gates 3 2
Griffith, E. C. Griffith 2 2
Cumberland, Campbell & Sherwin 2 .. 1
McKinney, G. F. Hovis et al 3 2
Ray, Young, Graham et al 4 3
Campbell, Baird, Keck et al 4 4
Glenn, Carl Hilliard et al 6 1
Wells completed 18
Production 20
Dry 3
Gas 5

ALLEGANY FIELD

Rigs

Fee, Empire Gas & Fuel, Ltd.
Fee, Albert Oil.
Fee, Hazelwood Oil.
Fee, R. J. Dermitt.
Fee, L. W. Shaner et al.
Fee, T. J. Gilligan et al.
Fee, M. J. Crowley et al.
Childs, Neil K. Wilson.
Fee, A. C. A. Oil Corp.

Wells Drilling

First Trust No. 65 Rockwell & Brown.
Taylor, C. W. Taylor.
Reid, Agt., Citizens National Bank, Wellsville et al 5.
Fee, Empire Gas & Fuel, Ltd.
Fee, Albert Oil.
Fee, Phillips & Howard.
Fee, Emma A. McEwen.
Murphy, First National Bank, Shinglehouse.
Fee, R. J. Dermitt.
Fee, Hazelwood Oil.
Fee, L. C. Whitford et al.
McDermitt, Willbart Oil.
Fee, Turner Oil Corp.
Fee, Cuba National Bank et al.
Fee, Clyde Jordan.
Fee, M. A. Jordan.
Fee, F. J. Wilson.
Fee, A. C. A. Oil Corp.
Fee, Turner, Cady & Allen.
Fee, Martin Bros. & Wasson.
Wetherby, R. J. Dermitt.
Rigs, 9; wells drilling, 21; total, 30.

BRADFORD FIELD

Rigs

Smith, South Penn Oil 116.
Bing, 409, South Penn Oil 14.
Hallock & Weston, South Penn Oil 88.
Burdick, South Penn Oil 47.
Weston, Jr., Tr., South Penn Oil 86.
Weston, Jr., Tr., South Penn Oil 87.
Windsor, Wilson & Co. 7.
Fee, Anna Jane VanTine 33.
Fee, South Penn Oil 10.
Franchot, D. & P. Oil 24.
Fee, Jeutter Bros. 10.
Fee, L. G. Dana.
Griffith et al, Hertzel & Knabb.
Fee, Mrs. Jos. T. Jones.
Bing, 22, Hazelwood Oil 32.
Grimm, J. W. Abrams 3.
Fee, W. W. Willoughby 6.
Fee, Berry Est.
Fee, South Penn Oil 92.
Fee, Associated Prod. 204.
Kennedy & Clark, Phoenix Oil 156.
South Penn Oil, E. K. Kane 41.
Bing, 409, South Penn Oil.
Bing, 533, South Penn Oil 71.
Bing, 595, South Penn Oil 5.
Bing, 590, Associated Prod. 347.
Bing, 439, South Penn Oil 80.
Howard, Pressure Oil.
Melvin, South Penn Oil.

Wells Drilling

Rounds & Lawrence, South Penn Oil 44.
Redfield, South Penn Oil 96.
Burns et al., E. J. Burns 29.
Fee, A. W. McCandless & Son 4.
Johnson Est., J. H. Brahaney 8.
Fee, South Penn Oil 16.
Clugston et al., Parker Farm Oil 12.
Fee, E. L. & F. J. Shippey 14.
Fee, E. A. Potter 3.
Fee, E. Jack et al 20.
Franchot, J. B. Walters 11.
Fee, Hazelwood Oil 45.
Fee, L. G. Dana 15.
Fee, Hazelwood Oil 34.
Franchot, T. P. Thompson 8.
Fee, Jane Zane Est.
Leasure, South Penn Oil.
Fee, South Penn Oil.
Fee, A. A. Park.
Fee, Moses Sullivan.
Fee, McConnell Oil.
Bing, 176, Hazelwood & Kennedy 102.
Bing, 150, South Penn Oil 60.
Bing, 150, South Penn Oil 59.
Fee, South Penn Oil 19.
Fee, South Penn Oil 35.
Fee, George Gallagher 8.
Bing, McLean & Co.
Quintuple Oil, Elizabeth A. Potter.
Northwestern M. & Ex., South Penn Oil.
Bing, 188, Harris Oil.
Erie Railroad, E. F. Conners 9.
Kennedy & Clark, Phoenix Oil 155.
Patterson & Kane No. 4, Holding Oil 20.
Fee, Hazelwood Oil.
Bing, 410, South Penn Oil.
Bing, 423, South Penn Oil.
Bing, 439, South Penn Oil.
Bing, 554, South Penn Oil.
Bing, 499, South Penn Oil 40.
Bing, 533, South Penn Oil 70.
Bing, 439, South Penn Oil 80.
Bing, 439, South Penn Oil 82.
Bing, 570, South Penn Oil 107.
Bing, 580, Associated Prod. 345.
Bing, 576, South Penn Oil 106.
Bing, 580, Associated Prod. 342.
Hamlin, South Penn Oil 96.
Bing, 88, South Penn Oil 11.
Fitzgerald, South Penn Oil 15.
Dent, South Penn Oil 92.
Melvin, South Penn Oil 188.
Bing, 532-554, South Penn Oil 41.
Bing, 533, South Penn Oil 70.
Moody, 54, South Penn Oil 34.
Bing, 400 acres, South Penn Oil 59.
Bing, 410, South Penn Oil 30.
Bing, 439, South Penn Oil 80.
Culbertson, 449, South Penn Oil 40.
Cotton, South Penn Oil 40.
Rew & Hodge, South Penn Oil 38.
Bing, 423, South Penn Oil 11.
Bing-Satt., South Penn Oil 107.
Howard, Pressure Oil.
Duke, Gridiron Oil.
Borden, T. B. Wilson.
Keller, Hifler & Sprague.
Baldwin, Forest Oil.
Porter, Forest Oil (two wells).
Noble, Forest Oil.
Irvine, C. E. Potter.
Burns, A. E. Yahn (two wells).
Baldwin, C. B. Kervin.
Kervin, Duke & Hifler.
Farr, G. S. VanVetchen & Son.
Sill, Hope Oil (two wells).
Garlock, Dewood Oil.
Hodge, South Penn Oil.
Pratt, Petroleum Reclamation (two wells).
Bingham, H. B. O.
Rew, Lincoln et al.
Ekas, R. C. Lloyd.
Fee, Skaggs Bros.
Bingham, D. W. Daly.
Rew, Wolfe Oil.
Murphy, Forest Oil
Fee, B. Devlin.
Germer, Linwood Oil.
Chapin, Linwood Oil.
Lovell, Ostrander et al.
Fee, R. O. Landers.
Nesselson, Shaw.
Lincoln, Smith.
Duke, M. L. Boyle.
Bingham, H. E. Camp Est.
Bingham, J. L. Yerdon.
Rigs, 29; wells drilling, 103; total, 132.

MIDDLE FIELD

Wells Drilling

Lot 3767, F. J. Moser 25.
Bingman, Rocky Grove Oil 14.
O'Hara, Pequignot & Co. 10.
Siggins, E. Pequignot 17.
Osgood, Rembold & Co. 7.
Columbia, Ruhlman & Grosch.
McWilliams, Johnson Bros.
Rigs, 0; wells drilling, 7; total, 7.

VENANGO-CLARION

Wells Drilling

Stevenson, Midland Oil 38.
Espy, Espy Oil 18.
Columbia, Brundred Oil 41.
Lockhart & Frew, J. L. M. A. G. & A. Diamond 27.
Phila. & Boston, Leadenham & Hancox 3.
Blair, Reeves & Franklin Trust 40.
Henderson, S. Y. Ramage 49.
McFadden, McFadden & Co. 13.
Cross, H. J. Hoffman 14.
Hasson, Ed Siederman 50.
Hoffman, Hawkins & Monjar 27.
Moran, D. O. & G. R. Moran 53.
Berry, Fields & Citizens Bank of Pleasantville 10.
Sayers, Kelley heirs & Hoffman 11.
Kern, C. B. Kern 13.
Nelson, S. C. Sampson 9.
Grant, Kelley, Trax, Parker et al 5.
McCalmont et al, C. & L. Roess Trust-Est 8.
Furnace tract, J. F. Helen and J. E. McLaughlin 53.
Forest—
U. N. Gas, United Natural Gas 3675.
Clarion—
Kapp, Alum Rock Gas 4.
Black, F. G. Youkers et al 1.
Brosius, T. B. Swartzfager et al 1.
Hess, Alum Rock Gas 6.
Heasley, Dempsytown Gas 2.
Wentling, V. Glass 2.
Best, T. L. Mong 1.
Ritts, Cole & Knight 7.
Keating & Breamer, Potts, Hecter & Edinger 3.
Buck, Vasey, Vensel et al.
Horner, Shannon & Crist 1.
Reed tract, Levi & Co.
Wilson, W. W. Wilson.
Rigs, 0; wells drilling, 33; total, 33.

BUTLER-ARMSTRONG

Rigs

Young, Elliott & Larkin 1.
Wylie, T. W. Phillips Gas & Oil 3.
Wylie, Saxonburg L. & H. 1.
Leslie, Woods & Heeter 1.
Kamerer, Mr. and Mrs. E. R. Kamerer 1.
Shaner, Bellstein, Shaner & Co. 3.
Bergbigler, Troutman & Perrin 1.
Boggs heirs, R. C. & W. V. Binkerd.
Campbell, H. H. Campbell.
Ray, Sherwin & Morris 1.

Wells Drilling

Borts, Texas Oil & Gas 1.
Neel heirs, Dufford, Vensel et al 4.
Ferguson heirs, Heeter & Woods 2.
Hickey, Flick & Co. 1.
Crawford, George Say 1.
Beck, Heasley Bros. & Simpson 1.
Raisley, Thomas Watson & Co. 1.
McCarron, Lang & Co. 3.
McBride, H. A. McBride et al 2.
Heim, Lang & Co. 1.
Rader, Rapp et al 4.
Goehring, J. A. Elliott 4.
Duncan, Elliott, Duncan et al 3.
Melatt, Stoughton & Co. 1.
Campbell heirs, H. Moore & Co. 1.
Branhart, George A. McGill.
Moore, E. Snow et al.
Griffith, E. C. Griffith 3.
Horner, J. S. Walker.
Donnelly, Bear Creek Oil.
Johns, I. N. Johns & Sons.
Campbell, Baird, McCandless et al 12.
Hilliard, Carl Hilliard et al 1.
Rigs, 10; wells drilling, 23; total, 33.

SOUTHWEST PENNSYLVANIA

WASHINGTON COUNTY

WELLS COMPLETED

Gushart, Benedum & Trees 3
Haslett, Mfrs. L. & H. Co. 1 ..... gas

ALLEGHENY COUNTY

Woodside, S. P. O. Co. 5 1
Miller, Robinson & Co. 2 1
Steele, A. Steele & Co. 1 ..... gas
Swartz, West Farm O. & G. Co. 6 ..... gas
Clever, M. Clever, 2 1

BEAVER COUNTY

Cauty, Geo. Kirk 1 ..... dry
Farmer, Butler County Parties 1 ..... gas

GREENE COUNTY

Kent, So. P. O. Co. 7 20
Davis, Carnegie Gas Co. 1 ..... gas
Behm, Mfrs. L. & H. Co. 1 5
Gump, Phipps Drilling Co. 1 ..... dry
McGuiphy, Carnegie Gas Co. 1 ..... gas
Andrews, N. & C. O. & G. Co. 4 ..... gas
Ernest, Mfrs. L. & H. O. 1 5
Pierson, Pierson O. & G. Co. 1 2
Wells completed 17
Production 37
Dry 2
Gas 7

WASHINGTON COUNTY

Wells Drilling

Wylie, Kennedy & Co. 3.
Carrouthers, Tague, Lutton & Co. 1.
Thome, Hayes & Co. 1.
Lutton, Tague, Lutton & Co. 5.
Lacock, Mfrs. L. & H. Co. 2.

ALLEGHENY COUNTY

Rigs

Vetter, Amer. N. G. Co. 2.
Wallace hrs., Parker & Co. 2.
Hoffman, C. Scott & Co. 2.
Wolfe, J. C. Knox 2.

Wells Drilling

Donaldson, Forney & Co. 1.
Hardt, Ferguson & Co. 1.
McCray, Ferguson & Co. 1.

BEAVER COUNTY

Wells Drilling

Ehrman, Black Bros. & Co. 2.

GREENE COUNTY

Rigs

Nichols, Mfrs. L. & H. Co. 2.
Rutan, N. G. Co. of W. Va. 2.
Rutan, C. & S. Gas Co. 1.
Caseman, Caseman O. & G. Co. 1.

Wells Drilling

South, F. Garrison 1.
Lemley, Peoples Gas Co. 2.
Howard hrs., Peoples Gas Co. 1.
Fox, Peoples Gas Co. 1.
H. Lemley, Peoples Gas Co. 1.

Fox, Martin O. & G. Co. 2.
Patterson, Moore-Tex O. & G. Co. 2.
Stephens, Phila. Co. 3.
S. Lemley, Carnegie Gas Co. 1.
McClure, Randall Gas Co. 1.
Ross, Federated Gas Co. 1.
Vance, Carnegie Gas Co. 1.
Minor, Phila. Gas Co. 1.
Bell, R. Clovis & Co. 1.
Jones, N. G. Co. of W. Va. 1.
Morford hrs., Spencer & Co. 2.
Stewart, Carnegie Gas Co. 1.
Webster, Mfrs. L. & H. Co. 2.
Wm. Caseman, Hope C. & R. Co. 2.
Rigs, 8; wells drilling, 28; total, 36.

SOUTHEASTERN OHIO

WELLS COMPLETED

Pew, Soles Drilling Co. 1 ..... dry
Jones, Jones & Co. 1 6
Allen, Long Run Oil Co. 1 1
Hartshorn, Berea Oil & Gas Co. 3 ... dry
Barnard, Covert & Co., 10 ..... gas

PERRY COUNTY

Sunday C'k. C. Co., John Denman & Son 46 5
Sunday C'k. C. Co., O'Connos & Co. 19 2
Trimmer, O. F. S. Co., 5 187
Metzer, Trinway O. & G. Co. 1 ..... dry

HOCKING COUNTY

Wagner, Gordon Oil Co. 1 160
Hoskins, Ohio Falls O. & G. Co. 2 20
Lick Run C. & C. Co., E. L. Stephens 3 5
Hamilton Bros., Preston Oil Co. 15 5

LICKING COUNTY

Sommerville, Carter Oil Co. 3 15
Derflinger, M. F., Whitehill 1 ..... dry
Walcutt hrs., E. H. Everett Co., 1 110
Withelm, E. H. Everett Co. 1 55
Bowser, Midland Oil Co. 3 115
Orr, Midland Oil Co. 2 5
Watts hrs., Carter Oil Co., 2 20
Pyle, Ohio Gas Co., 1 ..... dry
Veatch, W. M. Cline & Co. 4 10
Weiss, F. M. Rugg & Co., 5 3
Stair, E. J. Edmonds & Co., 4 3
McKinney, Jones & Reed 12 2
Purdy, A. J. Weidman, 12 2

HOLMES COUNTY

Patterson, East Ohio Gas Co. 1 ..... dry
Close, East Ohio Gas Co. 1 20
Martin, Empire G. & F. Co. 1 1
Pyers, Norwood Oil Co. 1 30
Parsons, Norwood Oil Co. 1 ..... gas
Troyer, Empire G. & F. Co. 2 30
Smith, East Ohio Gas Co. 1 1
Smith, East Ohio Gas Co., 2 1

COSHOCTON COUNTY

Norris, Pure Oil Co. 3 5
Gardner, Carter Oil Co. 1 5
Fawcett, Trinway O. & G. Co. 2 ..... gas

MUSKINGUM COUNTY

Bowlin, Mid East Oil Co. 1 ..... gas

FAIRFIELD COUNTY

McCandlish, Carter Oil Co. 1 ..... gas
Hdye, Rush Creek O. & G. Co. 2 5

MORGAN COUNTY

Swytzer, Sun Oil Co. 8 25
Souders, Sun Oil Co. 5 20
Fye, Pure Oil Co. 1 10
Bush, Pure Oil Co. 2 20
Floyd, Ark. O. O. & G. Co. 1 ..... gas
Schneider, Wehrle Oil Co. 1 ..... dry

NOBLE COUNTY

Heddleson, Hackett & Metcalf 1 2
Jerles, Geo. White & Co. 1 ..... dry
Blake, Phelix Gerst & Co 3 ..... dry
Hupp, Beeson & Athey 6 5

KNOX COUNTY

Blubaugh, Upham Gas Co. 1 ..... dry
Scholes, East Ohio P. & R. Co. 7 2

MEIGS COUNTY

Coteral, Brocalicas Chem. Co. 1 ..... gas
Invindin, Brocalicas Chem. Co. 1 2
Crew, O. F. S. Co., 3 5
Yost hrs., Pure Oil Co. 3 10
Cross, R. G. Gillespie 5 3
Watson, Hovis & Co. 1 ..... dry
Biddle, Biddle O. & G. Co. 2 10
Slaughter, Slaughter O. & G. Co. 1 5
Cooper, Bickle O. & G. Co. 1 ..... gas

WASHINGTON COUNTY

Noland, W. C. Noland 3 2
Erbese, Huntsman & Co. 3 ..... dry
Schantz, Palmer & Co. 3 ..... dry
Devol, Col. & M. Pet. Co. 5 5
Hill, Becker & Co. 2 1
Thornily, Victor Hammond, 4 1
Devel, Mericle Oil Co. 1 ..... dry
Reynolds, E. Stephens 2 1
Edwards, Harris & Co. 3 10
Driscoll, J. T. Dillon 33 1
Harvey, J. F. Ward, 24 1

JEFFERSON COUNTY

Criswell, J. Needles & Co., 8 ..... gas
McCaw Bros., Palmer & Co., 1 5
Spahn, Braden & Co. 1 ..... dry
Rinehart, C. B. Call 2 ..... dry

CARROLL COUNTY

Miskell, Miller Lees O. & G. Co. 11 15
Albaugh, Louden O. & G. Co. 2 2

COLUMBIANA COUNTY

Stoffer, Coraopolis S. & T. Co. 15 5

Wells completed	79
Production	997
Dry	16
Gas	9

MONROE COUNTY

Wells Drilling

Saulbery, Decker & Co. 1.

PERRY COUNTY

Rigs

Sunday C'k C. Co., Sunday C'k C. Co., 125, 126.
Tracey Est., Kachelmacher Est. 17.
Kochensparger, Carter Oil Co. 2.

Wells Drilling

Aker hrs., Carter Oil Co., 2.
Sunday C'k C. Co., Sunday C'k C. Co., 124.
Aker hrs., Murray City O. & G. Co. 5.
Grummon, Dugan Hill O. & G. Co., 2.
Paxton, Holliday O. & G. Co. 3.
Welch, Southern Oil Co. 2.
Denman, Paxton Oil Co. 1.

HOCKING COUNTY

Rigs

Rauber, Carter Oil Co. 1.
Johnston, Griffin Prod Co. 6.
H. V. P. Co., Chartiers Oil Co. 195.
Chute hrs., Red Top O. & G. Co. 4.

Wells Drilling

Brimner, Gordon Oil Co. 1.
Mowery, Carter Oil Co. 14.
H. V. P. Co., Chartiers Oil Co. 194.
Tracey Est., Kachelmacher Est. 16.
Jacobs, Jacobs Oil Co., 5.
Longstreth, Preston Oil Co. 23.

LICKING COUNTY

Rigs

Bowser, Midland Oil Co. 4.
McCullough, Carter Oil Co. 1.
Phillips, E. H. Everett Co. 1.
Lehman, E. H. Everett Co. 1.

Wells Drilling

Sommerville, Carter Oil Co. 4.
Phillips, Carter Oil Co. 2.
Bowers, Whitehill & Co. 4.
Bell, Carter Oil Co. 1.
Hazlett, Mid East Oil Co. 1.
Melick Bros., Athey Oil Co. 7.
McKinney, Jones & Reese 13.
Weiss, Denbow & Co. 1.
Crock, Pure Oil Co. 2.
Claypool, E. H. Everett Co. 8.

HOLMES COUNTY

Rigs

Waltman, Empire G. & F. Co. 1.
Houser, East Ohio Gas Co. 1.
Allison, East Ohio Gas Co. 2.
Williams, Empire G. & F. Co. 22.
Barnes, O. F. G. Co., 4.
Martin, O. F. G. Co., 1.
Parsons, Norwood Oil Co. 2.
Uhl, East Ohio Gas Co. 3.
Miller, Pure Oil Co. 1.
Marquis, Pure Oil Co. 2.
Carpenter, Pure Oil Co. 3.
Conkle, Carter Oil Co. 1.

Wells Drilling

Schouaner, Ohio Oil Co. 1.
Pyers, East Ohio Gas Co. 1.
Shank, East Ohio Gas Co. 4.
Bird, East Ohio Oil Co. 3.
Smith, Carter Oil Co. 1.
Patterson, Ark F. O. Co. 1.
Armstrong, Clice & Co. 1.
Mackey, Burtner & Co. 4.
Davenport, Empire O. & G. Co. 4.
Connor, Empire O. & G. Co. 2.
Uhl, O. F. G. Co. 2.
Jarvis, Norwood Oil Co. 5.
J. Uhl, East Ohio Gas Co. 4.
Sterling, East Ohio Gas Co. 2.
McCullough, East Ohio Gas Co. 2.
Sowash, East Ohio Gas Co. 2.
Anderson, East Ohio Gas Co. 2, 3.
Kendall, Empire G. & F. Co. 1.
Keiser, Pure Oil Co. 2.
Cline, Logan Gas Co. 1.

COSHOCTON COUNTY

Rigs

Wolford, Spindler & Co. 4.
McKee, Spindler & Co. 4.

Wells Drilling

Myers, Pure Oil Co. 1.
Crawford, Pure Oil Co. 7.
Ashcraft, Pure Oil Co. 3.

MUSKINGUM COUNTY

Rigs

Starkey, Mid East Oil Co. 1.
Hutson, Carter Oil Co. 2.
Findlay, Carter Oil Co. 4.
Detro, Carter Oil Co. 2.
Evans, Local Parties, 1.
J. S. Evans, Local Parties 1.
Lefflin, Carter Oil Co. 1.

GUERNSEY COUNTY

Rigs

Keith Bros., Keith & Co. 1.

Wells Drilling

Clark, O. F. G. Co. 1.
Wilson, O. F. G. Co. 1.
McBurney, O. F. G. Co. 1.
Watson, Eclipse O. & G. Co. 1.

FAIRFIELD COUNTY

Wells Drilling

Fecht, Peach O. & G. Co. 1.
Miller, Pure Oil Co. 4.
Dittoe, Planet Oil Co. 4.
Smith, Pure Oil Co. 3.
Morrow, Clinton O. & G. Assn 28.

MORGAN COUNTY

Rigs

Souders, Sun Oil Co. 6.
Bush, Pure Oil Co. 1.
Smith, Pure Oil Co. 3, 4.

Wells Drilling

Souders, Sun Oil Co. 4.
Fye, Pure Oil Co. 2.
Stonebruner, Davis Oil Co. 2.
Eppey, Pure Oil Co. 1.
Floyd, Ark. O. & G. Co. 2.
Stoneburner, Ark. O. & G. Co. 1.

NOBLE COUNTY

Wells Drilling

Walters, W. & N. O. & G. Co. 1.
Hesson, O. O. Kinsey 4.
Guder, C. L. Nanks, 1.

KNOX COUNTY

Rig

Heaton, Upham Gas Co. 1.

Wells Drilling

Scholes, East Ohio P. & R. Co. 3.

MEIGS COUNTY

Wells Drilling

Crider, Brocasia Chem. Co. 1.
Krider hrs., Pure Oil Co. 2.

ATHENS COUNTY

Wells Drilling

Campbell, Carter Oil Co. 1.

WASHINGTON COUNTY

Rigs

Windland, E. L. Yeager Trustee 1.
Windland, Carter Oil Co. 1.

Wells Drilling

Deshler hrs., O. S. Reckard 2.
Earley, Roy Earley & Co. 1.
Bartelle, O. D. Jones 11.
Torner Oil Co. C. A. Peevey & Co. 70.
Blazier hrs., Campbell & Co. 2.
Weslop, Beesom Bailey & Co. 8.
Devol, C. & M. P. Co. 6.
Barnes, Earl Stephens 1.
Hanlon, Hill Top O. & G. Co. 7.
Harvey, J. F. Ward 25.
Clark, H. H. Henny & Co. 7.

JEFFERSON COUNTY

Wells Drilling

Zacharias, Peters & Co. 1.
Groves & Co. S. H. Boyer & Co. 11.

CARROLL COUNTY

Wells Drilling

Blackledge, N. G. Co. of W. Va. 1.
Brandt, Milles Lees O. & G. Co. 3.
Rigs, 41; wells drilling, 84; total, 125.

WEST VIRGINIA

LEWIS COUNTY

Wells Completed

Watson, C. W. McCall & Co. 1. ..... gas
Horner, Roy R. Horner, 1 ..... dry
Dougherty, Caine & Co. 1 ..... gas
Snyder, Caine & Co. 1 ..... dry
Ramsey, West Fork O. & G. Co. 1... dry
Haymond, West Fork O. & G. Co. 2... gas

HARRISON COUNTY

Goodwin, So. P. O. Co. 10 10
McIntyre, Hope Gas Co. 1 ..... gas
Lowndes, R. T. Lowndes, 1 ..... gas
Shuttleworth, Grasselli Chem. Co. 1.. gas

MARION COUNTY

Koen-McGraw, So. P. O. Co. 7 2
Blackshore, So. P. O. Co. 21 2
J. Blackshore, So. P. O. Co. 8 2
Wright, Public Service Co. 1 ..... gas
Tennant, So. P. O. Co. 4 ..... dry
Soulter, Riter & Co. 1 ..... dry
Fluharty, Carnegie Gas Co. 1 ..... gas

MONONGALIA COUNTY

Price, Mfrs. L. & H. Co. 1 ..... gas
Wise-Tennant, O. C. Bradley 4 3
Tennant, Clay Dist. O. Co. 1 ..... gas

WETZEL AND TYLER COUNTIES

Merritt, H. Merritt 2 ..... gas
Pyles, Hope C. & R. Co. 1 25
Cain, Hope C. & R. Co. 3 15

MARSHALL COUNTY

Chaney, Mfrs. L. & H. Co. 1 ..... dry
Riley hrs. Wasmuth & Callahan O. & G. Co. 3 3
Howards hrs. Mfrs. L. & H. Co. 2 10
Jones, Mfrs. L. & H. Co. 2 ..... gas

DODDRIDGE COUNTY

Rollins, Murphy Oil Co. 4 10
Britton, Phila. Oil Co. 2 ..... gas
Flesher, Pgh. & W. Va. G. Co. 1 ..... dry

RITCHIE COUNTY

Douglass, Hope Gas Co. 1 ..... gas
Summers, Hope Gas Co. 2 ..... gas
Goff, Carnegie Gas Co. 2 ..... dry
W. Va. Tract, Burke Bros. 21 2
Ross Est., Aetna O. & G. Co. 11 3
Collins, E. M. Treat O. & Gas Co. 15.... gas
Marsh, Phila. Oil Co. 6 ..... dry
Rymer, Hope Gas Co. 1 ..... gas
Scott, Deem & Co., 1 ..... dry
Tibbs, Quinque O. & G. Co. 1 1
Jackson, Penn Royal Oil Co. 5 ..... dry
Lambert, H. L. Lambert, 1 5

GILMER COUNTY

Bennett, Hope Gas Co. 5 ..... gas
Gill, Hope C. & R. Co. 2 1
Whipkey, G. L. Cabot 1 ..... gas
Marshall, Hope Gas Co. 1 ..... gas
Stump, Chartiers Oil Co. 1 1
Rice, Hope Gas Co. 6 5
Ayers, Hope Gas Co. 1 10

WIRT COUNTY

Hayes, Hope C. & R. Co. 2 4
Vandevender, W. C. Patterson, 11 ..... dry

WOOD COUNTY

Drain hrs. Henderson Oil Co. 5 10
Henny, Reedy, Athey & Co., 1 5
Coplin, Leeton & Zinn 1 3

ROANE COUNTY

Dougherty, U. F. G. Co. 7. ..... gas
Shafer, Mayfield O. & G. Co. 1 ..... dry
Bartlett, Carter Oil Co. 1 ..... gas
Henderson, Spencer O. & G. Co. 1 .... gas
Burroughs, Reck Oil Co. 1 20
Roberts, Pell & Newman, Federal O. & G. Co. 16 ..... gas

LINCOLN COUNTY

Walls, Col. G. & E. Co. 1. ..... gas
V. Adkins, Superior Gas Co. 1 ..... gas
A. Adkins, Cambridge Gas Co. 2 ..... gas
Peck, Foote O. & G. Co. 2 ..... gas
K. Adkins, Roy & McComas 2 ..... gas
Thacker, C. C. Wolf, 2 ..... gas
Banks, Ray Gas Co. 1 ..... gas
Stewart, Ray & Son 3 ..... gas
Sweetland, L. R. Sweetland 3 ..... gas
Grass, David Fox 1 3
Pridemore-Sweetland, Foote Oil & Gas Co. 1 ..... gas
Browning, Carter Oil Co. 1 ..... gas

PUTNAM COUNTY

Johnson, U. F. G. Co. 1 ..... gas
Bryant-Johnson, U. F. G. Co. 1 ..... gas

KANAWHA COUNTY

Reamer-Brown, U. F. G. Co. 1 ..... gas
Patterson, U. F. G. Co. 1 ..... gas
Townsend-Young, U. F. G. Co. 1 ..... gas
Higginbotham, Oakland Dev. Co. 1 ... gas
Quarrier, Owens B. & M. Co. 5 ..... gas
Thompkins, U. F. G. Co. 1 ..... gas
Cassingham-Skinner, So. P. O. Co. 2 ... gas
Black Band Fuel Co. So. P. O. Co. 4 ... gas

BOONE COUNTY

L. R. & P tract B., Pure Oil Co. 15 35
C. R. Mining Co., B. Owens, B. & M. Co. 4 ..... dry
Pond Fork C. Co., B. Owens B. & M. Co. 2 ..... gas
Pryor-Allen, B. Owens, B. & M. Co. 10 gas
Cassingham, B. Owens B. & M. Co. 6 .. gas
Smoot, B. Owens, B. & M. Co. 1 ..... gas
Yawkey-Freeman, S. P. Oil Co. 11 .... gas

CABELL COUNTY

Nixon, Aetna O. & G. Co. 1 ..... gas
Hagar, Mid Way City G. Co. 1 ..... gas
Hardin, Ohio Fuel Oil Co. 1 ..... gas
Walton, Walton O. & G. Co. 1 ..... gas
Grass, David Fox & Co. 1 2

LOGAN COUNTY

Yawkey-Freeman, So. P. O. Co. 5 ..... dry

MINGO COUNTY

U. F. T. C. Co., Pure Oil Co. 1 ..... dry
Closterman Est., Public Gas Corp., 8.. 15
L. C. C. Co., Public Gas Corp. 14 20

Wells completed	98
Production	217
Dry	16
Gas	54

LEWIS COUNTY

Rigs

Arnold, Mud Lick O. & G. Co. 1.
Watson, C. W. McCall & Co. 2.

Wells Drilling

Yoke, Hope Gas Co. 1.
Rhodes, Hope Gas Co. 1.
Hughes, Reserve Gas Co. 1.
Simons, Hope Gas Co. 1.

HARRISON COUNTY

Rigs

Shuttleworth, Grasselli Chem. Co. 2.

Wells Drilling

Benedum, Salem Oil Co. 2.
Harbert, Carson Gas Co. 1.
Lanhan, Delva Tex O. & G. Co. 2.
Lowndes, R. T. Lowndes, 1.
Lewis, Grasselli Chem. Co. 1.
Lawson, Grasselli Chem. Co. 1.
Smith Bros. Reserve Gas Co. 1.
Post, Reserve Gas Co. 1.
Reynolds, Reserve Gas Co. 1.
Harbert, Hope Gas Co. 1.

PRESTON COUNTY

Wells Drilling

Gordon, Hope Gas Co., 1.

MARION COUNTY

Rigs

Michael, Carnegie Gas Co. 2.
Stephens, So. P. O. Co. 1.

Wells Drilling

Hamilton, So. P. O. Co. 10.
Koen, So. P. O. Co. 1.
Hawkins, Hope C. & R. Co. 2.
Fleming, Davenport O. & G. Co. 1.
Brownlee, Owens B. & M. Co. 1.
Cunningham, Owens B. & M. Co. 1.
Yost, So. Po. O. Co. 6.
Clayton, Owens B. & M. Co. 1.
M. Clayton, Owens B. & M. Co. 1.
Fleming hrs., Morgantown Oil Co. 1.

MONONGALIA COUNTY

Wells Drilling

Varner hrs., Dun Mar O. & G. Co. 17
Tennant, Hope C. & R. Co. 1.
Knutti, Cummins & Thomas 1.
Lemley, So. P. O. Co. 3.

WETZEL AND TYLER COUNTIES

Rigs

McIntyre, Carter Oil Co. 1.
Scott, Trainer Bros. & Ash 1.
Eddy, M. Eddy 1.
Moore, Silverhill Oil Co. 1.
McGinnis, H. L. Lambert 8.

Wells Drilling

Steele, Silverhill Oil Co. 1.
Cooke, Cooke Pet. Co. 1.
Morgan, W. Va. Cons. Oil Co. 2.
Yeater, Hope C. & R. Co. 1.
Yeater, Hope Gas Co. 1.
Peterson, So. P. O. Co. 16.
Robbins, Hope Gas Co. 1.
Phipps, Null & Co. 1.
Tallman, A. Neeley 1.
Martin, Andrew 1.
Carney, Hope C. & R. Co. 3.
Mille, Hope C. & R. Co. 1.
E. Miller, Hope C. & R. Co. 1.
Mace, Carnegie Gas Co. 1.

MARSHALL COUNTY

Rigs

Antill, John Gas Co., 5.
Rogerson, Wasmuth & Callahan O. Co. 22.
Chambers, Mfrs. L. & H. Co. 1.
Kemp, Hope Gas Co. 1.
Richmond, Hope Gas Co. 1.

Wells Drilling

McCuskey hrs., Waynesburg Gas Co. 1.
Noner, Decem. Dev. Co. 3.
Schenk, Mfrs. L. & H. Co. 1.
Markey, Decem. Dev. Co. 4.
Riley hrs., Wasmuth & Callahan O. Co. 4.
Blake, Lynn Camp O. & G. Co. 1.
Logsdon, Hope Gas Co. 4.
Pyles, Mfrs. L. & H. Co. 1.

DODDRIDGE COUNTY

Rigs

Williams, Nay & Kintsner 2.
Heffin, C. H. Pigott 1.
Burbridge, Gribble & Co. 2.
Kelly, Trainer & Trainer 2.
Roberts, Keystone Oil Co. 4.
Underwood hrs., Berry & Underwood 1.
Hudson hrs., Continental O. & G. Co. 3.
Smith, Carter Oil Co. 4.

Wells Drilling

Farris, R. S. Monroe, 4.
Allender, Parkersburg O. & G. Co. 1.
Ehret, Hope C. & R. Co. 2.
Williams, Hope C. & R. Co. 6.
Huford hrs., Carter Oil Co. 2.
L. F. Williams, Nay & Williams 1.
Gribble, Local parties 1.
Bee hrs., C. W. McCall O. & G. Co. 3.
Hudkins, Imperial O. & G. P. Co. 11.
Maxwell, Phila. Oil Co. 11.
Burbridge, Maxwell & Henderson 1.
Knight hrs., O. C. Henry & Co. 1.
Henderson, Colonial Oil Co. 1.
Smith, R. Shinn 1.
Freeman, Clifton O. & G. Co. 5.

RITCHIE COUNTY

Rigs

W. Va. Tract, D. C. Reese & Co. 30.
Mason, McDonough & Co. 1.
Pope, Pope & Co. 2.
Wilson, Carnegie Gas Co. 1.
Lamp, Neelay & Co. 5.
Deerman, Deerman & Co. 1.
Lowther, Kohn Leeton 1.
Lowther, So. P. O. Co. 1.
Newbrough, Adams Oil Co. 6.
Poynter, H. L. Lambert 1.

Wells Drilling

Summers, Hope Gas Co. 1.
Grabill, E. E. Pope 7.
W. Vo. Tract, D. C. Reese & Co. 30.
Howell, Moore & Co. 1.
Rector, Rector & Bro. 2.
Jonas, Cross O. & G. Co. 3.
Volcanic Tract, Power Oil Co. 104.
Haymond hrs., Barker & Smith 1.
Kysor, Hope Gas Co. 1.
Haymond hrs., Premier Gas Co. 5.
Ridgeway, Continental Oil Co. 2.
Caine, Mellon Bros. 3.
Zichafoose hrs., Zichafoose Bros. 2.
Scott, L. Rinehart, 1.
Shaw-Garrison, J. D. Netser 1.
Phillips, Edgar Lynch 2.

GILMER COUNTY

Rigs

Goff, So. P. O. Co. 8.
Hardma, So. P. O. Co. 6.
Ellis, So. P. O. Co. 1.
Richards, Chem. Oil Co. 2.
Meadows, Hope Gas Co. 1.
Collins, Hope Gas Co. 1.
Walton hrs., McIntosh & Miller 1.
Keith, Hope Gas Co. 1.

Wells Drilling

Stalnaker, Hope Gas Co. 2.
Frederick, Hope Gas Co. 1.
Blankenship, Pine O. & G. Co. 1.
Burwell, Hope Gas Co. 1.
Robinson, Dalley & Parker 1.
Parsons, Hope Gas Co. 1.

WIRT COUNTY

Wells Drilling

Daubenspeck, A. F. Daubenspeck 3.

WOOD COUNTY

Rigs

West, Dollman & Kingsley 4.

Wells Drilling

Rose, Decker & Smith 1.
Train hrs., Henderson Oil Co. 6.
Dye, Park Bowser, 1.
Elliott, Cromley Oil Co. 1.

PLEASANTS COUNTY

Wells Drilling

Newland, White & Casper 1.
Smith, Williamson Oil Co. 1.
Wagner, Bottom Oil Co. 2.
Hammett hrs., Faith Oil & Gas Co. 3.
Corbitt, Dresser Oil Co. 8.
Hines, W. C. Patterson 8.

ROANE COUNTY

Rigs

Larch, O. F. O. Co. 19.
Morford, Carter Oil Co. 1.

Wells Drilling

Runnion, Carter Oil Co. 1.
Brown, Heck Oil Co. 4.
Davis, Heck Oil Co. 4.
Young, Richardson & Co. 1.

CALHOUN COUNTY
Wells Drilling

Crowley, M. F. Crowley 1.
Hardman, Hope C. & R. Co. 1.
Tucker, Federal O. & G. Co. 1.

JACKSON COUNTY
Wells Drilling

McCoy, Henderson Oil Co. 1.

CLAY COUNTY
Rigs

Wyant, Virginia Gaso. & O. Co. 1.
King, White Sand O. Co. 3.

LINCOLN COUNTY
Rigs

C. Adkins, Orlando O. & G. Co. 3.
Wells Drilling
Goode, O. E. Copeland 1.
K. Adkins, Roy & McComas 2.
Gilbert, Ray Gas Co. 1.
Vickers, Col. G. & E. Co. 1.
Madden, Moore Rock O. & G. Co. 3.
Goode, West Side Gas Co. 1.

PUTNAM COUNTY
Wells Drilling

Henderson, L. R. Sweetland 1.
McCallister, U. F. G. Co. 1.
Paul, C. & D. Gas Co. 1.

CABELL COUNTY
Rigs

Walker, Commercial Gas Co. 1.
Wells Drilling
Hyman-McCullough, Aetna O. & G. Co. 1.
Templeton, C. O. Nixon & Co. 1.
Walton, Walton O. & G. Co. 4.
Jordan, Harshbarger O. & G. Co. 2.
Swann, Star Pet. Co. 1.

LOGAN COUNTY
Rigs

Yawkey-Freeman, So. P. O. Co. 9, 14, 15, 7.
Wells Drilling
Yawkey-Freeman, So. P. O. Co., 10, 6, 7, 8, 12, 13.
Guyan Mercantile Co., So. P. O. Co, 1.
Chambers, Wacatock O. & G. Co. 1.
Dingess Run Coal Co. Wacatock O. & G. Co. 11.

WAYNE COUNTY
Wells Drilling

Calfee, Chartiers Oil Co. 1.

BOONE COUNTY
Rigs

C. R. M. Co., Owens B. & M. Co. 24.
Bull Creek C. & L. Co., Owens B. & M. Co. 3.
Bedford, Owens B. & M. Co. 8.
Cassingham, Owens B. & M. Co. 7.
Smoot tract, Owens B. & M. Co. 1.
Wells Drilling
Perry, Owens Bottle & M. Co. 2.
Williams Coal Co. Pure Oil Co. 222.
L. R. & P. Tract B, Pure Oil Co. 16.
Fuel Land Co., Owens B. & M. Co. 2.
Bull Creek C. & L. Co., Owens B. & M. Co. 2.
Walker, Owens B. & M. Co. 2.
B. K. L. & M. Co., Owens B. & M. Co. 8.
Bedford, Owens B. & M. Co. 7.
Cassingham, Owens B. & M. Co. 7.
Stollings, Carter Oil Co. 1.

KANAWHA COUNTY
Rigs

Warbutton, U. F. G. Co. 1.
Vickers, Columbia Carbon Co. 3.
Roane Land Co., Allegheny O. & G. Co. 2.
Wells Drilling
Halstead, U. F. G. Co. 1.
Dew, U. F. G. Co. 1.
Jarrett, U. F. G. Co. 1.
Kennedy, U. F. G. Co. 1.
R. W. Kennedy, U. F. G. Co. 1.
Vickers, Columbia Carbon Co. 3.
Copenhaver, Copenhaver O. & G. Co. 2.
Dodd, So. P. O. Co. 1.
Boyd, U. F. G. Co. 1.
Burgman, U. F. G. Co. 1.
Mooney, U. F. G. Co. 1.
Ward hrs., Cabin Creek Gas Co., 52, 53, 55.
Dickinson, Mildred Gas Co. 1.
Odell, Mildred Gas Co. 1.
Huddleston hrs., Mildred Gas Co. 1.
Veasey, G. L. Cabot, 1.
Griggs, C. E. Warfield, 1.
Workman, J. & C. Warfield 1.
Sidman, McComas & Roy 1.
Noel, Mickey & Long, 1.
Huddleston-Jarrett, Davis & Mullins 1.
Clatworthy, Ohio P. O. Co. 2.
Beasley, Virginia Gasoline & O. Co. 1.
Rigs, 60; wells drilling, 166; total, 226.

LIMA FIELD

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Wood	9	86	3	0	0	18	18
Hancock	5	110	0	0	1	8	9
Allen	3	75	0	0	2	5	7
Auglaize	8	163	3	0	0	10	10
Sandusky	5	63	0	0	0	5	5
Mercer	13	134	1	1	0	12	12
Van Wert	1	20	0	0	0	4	4
Seneca	1	0	1	0	1	1	2
Lucas	1	18	0	0	0	3	3
Ottawa	2	20	0	0	0	1	1
Darke	2	0	2	0	0	1	1
Shelby	5	72	1	0	0	5	5
Hardin	4	47	0	1	0	3	3
Wyandot	0	0	0	0	1	0	1
Paulding	0	0	0	0	3	2	5
Defiance	0	0	0	0	0	1	1
Crawford	0	0	0	0	0	2	2
Michigan	0	0	0	0	0	2	2
Total April..	59	808	11	2	8	83	91
Total March	37	395	8	2	9	55	64
Difference..	22	413	3	0	1	28	27

LIMA FIELD
WELLS COMPLETED

WOOD COUNTY

Freedom—Chas. Hiser, Ohio Oil 4 .... abd
A. F. Stein, August F. Stein 11 ....
Plain—Joe Lane, Ladd & Morrison 4.. 8
Portage—C. Potter, F. W. Munn, 5 ... 10
C. Potter, F. W. Munn, 2 ..... abd
Henry—B. A. Lawrence, Ohio Oil 44.... dry
Chidester, Agnetta D. Chidester 18 dry
Bloom hrs., Donald Oil & Gas 4 .... abd
J. W. Sterling, Donald Oil & Gas 12 abd
Bloom—Browning, C. A. Browning 20.. dry
S. B. Newcomer, Ohio Oil 36 30
Liberty—Frank Stratton, Ogden G. Rouse & Co. 36 15
C. S. Seitz, Hulse & Kundtz 1, 2 .. abd
Fred J. Wolfe, Hoffman & Haas 2, 3 abd
Perrysburg—Lindemier, John E. Welton & Co. 7 20
Lake—Emil Brendt, Chas. F. Zeising & Co. 7 3

Wells completed 9
Production 86
Dry 3
Abandoned 9

HANCOCK COUNTY

Eagle—McClelland, S. Porter & Co. 2 .. 35
E. M. Crozier, J. M. Steen & Co. 27 12
Levi Gorby, Dave King, Jr. & Co. 7 35
Union—C. O. Myeres, C. O. Halpine & Co. 11 3
Biglick—Saltzman, R. Allen & Co. 1 ... 20

Wells completed 5
Production 105

ALLEN COUNTY

Spencer—J. Beerman, Wolfe Bros. & Gervin Oil 1. 15
J. Beerman, Wolfe Bros. & Gervin Oil 2 15
Bath—E. Younkman, Carman, Botkins & Co. 6 45
Perry—Ben C. Faurot, Ohio Oil Co. 13 abd

Wells completed 3
Production 75
Abandoned 1

AUGLAIZE COUNTY

Moulton—Morris hrs., Kelley Bros. 1.. dry
John Sutton, Garold M. McClure 2 3 ..... abd
Logan—Way Place, W. B. Jack & Co. 1 dry
Douchouquet—J. F. Kohler, C. C. Romshe 4 60
Geo. Metzger, Boston-S. W. Oil & Gas 1 3
Fred Priesar, Boston-S. W. Oil & Gas 2 45
C. & J. Frech, Boston-S. W. Oil & Gas 1 15
Washington—G. Haberkamp, Star Oil 1 15
Jackson—R. Steinerman, Rock Oil 1.. dry

Wells completed 8
Production 163
Dry 3
Abandoned 2

SANDUSKY COUNTY

Jackson—Rineboldt, B. J. Rineboldt 6 6
E. Hummell No. 2, North Lima Oil 11 15
L. & A. Miller, Jos. A. Neiset 6.... 2
Madison—Sylvia M. Ladd, Ohio Oil 5.. 20
Sylvia M. Ladd, Ohio Oil 6 20

Wells completed 5
Production 63

MERCER COUNTY

Gibson—Jos. Schmetz, E. G. Henderson & Co. 4 5
J. Trescheman, E. C. Smith & Co. 1 dry
P. J. Schmetz, Central West Oil & Gas 6 4
Hopewell — G. F. Hellworth, Home Banking Co. 4 23
C. C. Ricketts, E. A. Kuhns & Co. 4 15
C. C. Ricketts, E. A. Kuhns & Co. 5 15
O. E. Scilschott, Home Banking Co. 1 ..... abd
Butler—G. H. Dues, R. E. Young & Co. 2 ..... gas
A. McAfee, Recovery Oil & Gas 3.. 2
Center—Wm. Miller, M. P. Colt & Co. 1 15
Olivar Graffis, J. W. McIntosh 4 .. 5
Union—Chas. Fryer, White & McDowell 1 ..... abd
Scott Hays, Ohio Oil 4 ..... abd
Liberty—M. Lynn, Celina Pet. 10 30
Brehm Bros., Celina Pet. 4 10
Recovery—Rose Fecher, S. C. Tate Jr 1 10

Wells completed 13
Production 134
Dry 1
Gas 1
Abandoned 3

VAN WERT COUNTY

York—T. R. Hughes, The Lima Trust 7 20

SENECA COUNTY

Clinton—Katherine Hakers, Arthur Geyer & Co. 1 ..... dry

LUCAS COUNTY

Jerusalem—R. & M. A. Eck, Ohio Oil 12 18
Oregon—Catherine Grolle, Ohio Oil 5.. abd

Wells completed 1
Production 18
Abandoned 1

OTTAWA COUNTY

Harris—W. E. Stewart, Gust Magsig & Sons 4 11
O. L. Luckey, O. Lew Luckey 5.. 9

Wells completed 2
Production 20

DARKE COUNTY

Mississinewa—Jacob Schoen, H. A. Marlin 5, 6 ..... dry

Wells completed 2
Dry 2

SHELBY COUNTY

Cynthian—Anna Ellerman, Ellerman Oil 5 ..... dry
A. Bolheimer, Bolheimer Oil & Gas 2 30
Ida M. Short, Ohio Oil 1 1
Frank Dansig, Slagle & Johnson 1 20
Henry Sherman, Lee A. Watson 1.. 21

Wells completed 5
Production 72
Dry 1

HARDIN COUNTY

McDonel—E. McArthur, Roundhead Oil & Gas 1 40
M. E. Greentree, Cockley Oil 3.... 5
Earl Hites, Schmidt & Co. 2 .... gas
Roundhead—J. Nichols, Whipple, Ulrich & Co. 1 2

Wells completed 4
Production 47
Gas 1

WOOD COUNTY
Wells Drilling

Freedom—Byron Brockover, J. E. Matzinger 9.
Plain—Fred J. Hendricks, Queen Oil 1.
Portage—M. S. Rouse, Mattie S. Rouse 23.
Henry—J. W. Sterling Donald Oil & Gas 21.
J. J. Faylor, J. T. Montgomery 19.
B. A. Lawrence, Ohio Oil 45.
Bloom—N. W. Ohio Gas, Ohio Oil 49.
F. B. Loose, Western Ohio Oil 3.
Andrew Emerine, Ohio Oil 25.
Liberty—P. Smith, Ohio Oil 11.
D. W. Levers, Hulse & Kundtz 4.
Perrysburg—H. Grolle, Wm. G. Grolle 2.
Delos Speck, Gage & Eurnell 2.
Alex Beard, Lewis W. Johnson 6.
H. & A. H. Lindemeier, John E. Welton 8.
Lake—Fred Schulte, Lantz, Gregg & Schulte & Co. 6.
Bingham Bros. Chas. F. Zeising & Co. 2.
Middleton—Chas. Tanner, Chas. Tanner 1.
Rigs, 0; wells drilling, 18; total, 18.

HANCOCK COUNTY
Rigs

Eagle—H. P. Smith, Fuller & Co. 15.
Wells Drilling
Eagle—J. W. McClelland, S. Porter & Co. 3.
Irwin Powell, S. Porter & Co. 16.
Lem Aurand, Porter & Hovis 16.
Alice Stauffer, Star & Clark 3.
E. M. Crozier, J. M. Steen & Co. 28.
Liberty—J. Cooper Jr., Ohio Oil 22.
Orange—Elsa Stratton, Ohio Oil 23.
Ed. Bontwell, Janeri Oil & Gas 1.
Rigs, 1; wells drilling, 8; total, 9.

ALLEN COUNTY
Rigs

Jackson—Seth McKee, Carman, Botkins & Co. 1.
Shawnee—W. H. Bresse, Kelley Bros. 1.
Wells Drilling
Spencer—Wm. Severn, W. L. Parmenter 9.
Ed Reynolds, South Fork Oil 2.
Amanda—Bailey hrs., W. W. Rockes 1.
Marion—D. H. Counsellor, Ohio Oil 10.
Dave Brenneman, Joe B. Mayer 12.
Rigs, 2; wells drilling, 5; total, 7.

AUGLAIZE COUNTY
Wells Drilling

Moulton—Jas. Rapp, Iron Mountain Oil & Gas 1.
W. E. Cook, Young & Geselchen 5.
Milton Wolf, Fowler Bros. Petroleum 1.
Fred Underwood, W. B. Jack 1.
Salem—W. E. Miller, Duke & Galloway 1.
Geo. Hettinger, Duke & Galloway 1.
Douchouquet—C. & J. Frech, Boston-S. W. Oil & Gas 2.
Fred Priesar, Boston-S. W. Oil & Gas 3.
Jackson—J. H. Koster, Unknown 1.
Logan—Chas. McPherson, E. E. Loeber 1.
Rigs, 0; wells drilling, 10; total, 10.

SANDUSKY COUNTY
Wells Drilling

Jackson—E. Hummell No. 2, North Lima Oil 12.
T. I. Jackson, Jackson Oil 10
Martha A. Talbert, Frank Haubert 3.
Madison—Sylvia M. Ladd, Ohio Oil 7.
Washington—R. Netcher, Netcher & Co. 1.
Wells drilling, 5.

MERCER COUNTY
Wells Drilling

Gibson—Jos. Schmitz, E. G. Henderson & Co. 5.
P. J. Schmitz, Central West Oil & Gas 7.
Hopewell—Earl Schoenaker, A. J. Metzgar 1.
C. C. Ricketts, E. A. Kuhns & Co. 6.
Washington—Florence heirs, Callahan & Hughes 2.
Butler—H. H. Cuckatter, Dilbone Oil 1.
J. E. Nueby, Ray Young & Co. 1.
Center—Wm. Miller, Mack P. Colt & Co. 2.
Jefferson—J. W. Monroe, D. A. Miller & Co. 1.
Liberty—Brehm Bros. Celina Petroleum 5.
M. Lynn, Celina Petroleum 11.
Recovery—Rose Fecher, S. C. Tate, Jr., 2.
Wells drilling, 12.

VAN WERT COUNTY
Wells Drilling

York—W. H. Loyd, Hugh Doyle 1.
Keyser-Forewatter, Stelzer & McGuire 2.
Ridge—J. E. Moore, Calvin Neely 2.
Willshire—A. J. Cully, J. H. Harmon & Co. 1.
Wells drilling, 4.

SENECA COUNTY
Rig

Clinton—Jas. Shertzer, Arthur Geyer & Co. 1.
Well Drilling
Eden—E. W. Snyder, E. T. Robinson & Co. 1.
Rigs, 1; wells drilling, 1; total, 2.

LUCAS COUNTY
Wells Drilling

Monclova—Wm. Black, Swan Creek Oil & Gas 2.
Mrs. A. Ward, Doblinger Bros. 1.
Jerusalem—R. H. and M. M. Eck, Ohio Oil 13.
Wells drilling, 3.

OTTAWA COUNTY
Well Drilling

Harris—O. L. Lucky, O. Lewis Lucky 6.

DARKE COUNTY
Well Drilling

Wayne—Margaret Paulis, Lee A. Watson 2.

SHELBY COUNTY
Wells Drilling

Cynthian—B. Miller, Cashdollar Oil 2.
J. Zimbarger, American Nat. Gas 1.
Frank Danzig, Slagle & Johnson 2.
J. H. Earnhart, Lee A. Watson 1.
Laramie—H. Pauls, O. J. McGuiggan & Co. 1.
Wells drilling, 5.

HARDIN COUNTY
Wells Drilling

McDonel—Mary Clark, Boston-Southwestern Oil & Gas 1.
Earl Hites, Roundhead Oil & Gas 6.
Marion—Jas. Grossley, Schmidt & Co. 1.
Wells drilling, 3.

WYANDOT COUNTY
Rig

Ridge—James Cross, R. S. Raydure 1.

PAULDING COUNTY
Rigs

Harrison—A. W. Miller, Aetna Drilling 1.
C. C. Springer, John T. Schunck 4.
Bailey heirs, U. S. A. Oil 4.
Wells Drilling
Harrison—C. C. Springer, John T. Schunck 3.
Bailey heirs, U. S. A. Oil 3.
Rigs, 3; wells drilling, 2; total, 5.

DEFIANCE COUNTY
Well Drilling

Adams—Adams Township Oil & Gas 1.

CRAWFORD COUNTY
Wells Drilling

Texas—Wooster Reidle, The Sun Co. 2.
Galion—Town lot, Weed-Hamilton Oil 1.
Wells drilling, 2.

MICHIGAN
MONROE COUNTY
Well Drilling

Dundee—Frank Roe, Jackson County Oil & Gas 1.

JACKSON COUNTY
Well Drilling

Napoleon—Silvers, Jackson County Oil & Gas 1.

CENTRAL OHIO

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Licking	0	0	0	0	0	1	1
Ashland	1	0	0	1	6	3	9
Medina	2	3	0	0	2	5	7
Lorain	4	0	0	4	0	2	2
Wayne	3	0	1	2	2	9	11
Richland	0	0	0	0	0	1	1
Vinton	0	0	0	0	0	1	1
Holmes	9	148	3	2	14	23	37
Jackson	0	0	0	0	5	1	6
Athens	8	6	3	3	6	4	10
Meigs	1	14	0	0	0	0	0
Lawrence	0	0	0	0	0	1	1
Huron	0	0	0	0	0	1	1
Coshocton	2	0	0	2	0	0	0
Total April..	30	171	7	14	35	53	87
Total March	27	115	7	15	30	47	77
Difference...	3	56	0	1	5	5	10

WELLS COMPLETED
ASHLAND COUNTY

Hanover—C. D. Maxwell, Ohio Fuel Gas 1 ..... gas

MEDINA COUNTY

Chatham—Geo. W. Packard No. 2, E. R. Edson & Sons Co. 11..... 3
Geo. W. Packard No. 2, E. R. Edson & Sons Co. 12 1

Wells completed 2
Production 3

LORAIN COUNTY

Columbia—John Offenburg, East Ohio Gas 1 ..... gas
F. C. Akens, Daugherty Bros. 1.... gas
Thos. Armitage, Empire G. & F. 1 gas
L. L. Ring, Wiser Oil 1 ..... gas

Wells completed 4
Gas 4

WAYNE COUNTY

Wooster—J. M. Carroll, Ohio Oil 3.... dry
Cannan—Jacob Sell, Logan Gas 3..... gas
H. Rock, Wm. Denny & Co. 1..... gas

Wells completed 3
Dry 1
Gas 2

HOLMES COUNTY

Monroe—F. C. Close, East Ohio Gas 1 43
Davis Pyers, Norwood Oil 1 30
W. R. Parson, Norwood Oil 1 ..... gas
A. S. Davenport, Empire G. & F. 1 dry
Prairie—Wm. H. Miller, Pure Oil 2.... 70
Richland—Jno. J. Patterson, East Ohio Gas 1 ..... dry
Hardy—J. Clark Smith, East Ohio Gas 1 ..... dry
J. Clark Smith, East Ohio Gas 2.. 5
S. S. Troyer, Empire G. & F. 2.... gas

Wells completed 9
Production 148
Dry 3
Gas 3

ATHENS COUNTY

Carthage—J. J. Gaston, Wm. Hawkins & Co. 6 ..... dry
J. McKinley, McBride & Co. 2.... dry
C. R. Coen, The Carter Oil 1..... dry
L. H. Allen, Sweeney & Snodgrass 2 ..... gas
Troy—E. Patton, Park Bowser & McBride 1 ..... gas
Athens—L. D. Radcliff, Strouther Run Oil & Gas 3 ..... gas
C. O. Lowry, Carter Oil 1 3
Rome—Dr. Copeland, Sayer & Co. 1.. 3

Wells completed 8
Production 6
Dry 3
Gas 3

MEIGS COUNTY

Sutton—E. Williams, Ohio Fuel Sup. 1 14

COSHOCTON COUNTY

Newcastle—Cassingham & Herbig, Bell Bros. & Co. 3, 5 ..... gas

Wells completed 2
Gas 2

LICKING COUNTY
Wells Drilling

Eden—Maggie Oastman, Wehrle Bros. 1.

ASHLAND COUNTY
Rigs

Hanover—Howard Brookover, Logan Gas 2.
J. W. Sellers, Logan Gas 1.
H. Bookman, East Ohio Gas 2.
Greene—Martha Brown, Logan Gas 2.
Henry Casner, Ohio Fuel Gas 1.
Orange—J. J. Brown 6, Logan Gas 1.
Wells Drilling
Hanover—Rhoda Black, Ohio Fuel Gas 1.
Orange—J. R. McConnell, Logan Gas 1.
A. H. McClelland, Hulse & Kundtz 2.
Rigs, 6; wells drilling, 3; total, 9.

MEDINA COUNTY
Rigs

Harrisville—J. S. Wisler, Logan Gas 1.
Lafayette—Hipolite Karas, Ohio F. G. 1.
Wells Drilling
Montville—J. K. Nold, Ohio Fuel Gas 1.
Westfield—Mack S. Sterns, Ford, Brookhart & Co. 1.
York—Ada G. Swartz, Ohio Fuel Gas 1.
Brunswick—Gilbert Kovach & Co., Ohio Fuel Gas 1.
Spencer—Simon & M. Bowand, Eppenour-McClelland & Lewis 1.
Rigs, 2; wells drilling, 5; total, 7.

LORAIN COUNTY
Wells Drilling

Columbia—G. & J. Herold, East Ohio Gas 2.
Sylvia A. Ives, Logan Gas 1.
Rigs, 0; wells drilling, 2; total, 2.

WAYNE COUNTY
Rigs

Wooster—J. Sherrick, East Ohio Gas 1.
Cannan—W. Shoemaker, Empire Gas & Fuel 1.
Wells Drilling
Wooster—Peter Shelley, Ohio Oil 1.
Milton—E. L. Steiner, East Ohio Gas 2.
Franklin—G. W. Roth, Ohio Oil 1.

Cannan—M. S. Shoemaker, Empire Gas & Fuel 1.
J. Gingery, Central Oil & Gas Co. 3.
D. H. Hemming, Logan Gas 1.
C. & G. Cell, East Ohio Gas 3.
A. W. Latimer, Arthur & Mills 3.
R. J. Whonsettler, Arthur & Mills 2.
Rigs, 2; wells drilling, 9; total, 11.

RICHLAND COUNTY
Wells Drilling
Franklin—J. Lantz, Coyle & Matthews 2.

VINTON COUNTY
Wells Drilling
Clinton—E. C. Wartman, Ohio Fuel Gas 5.

HOLMES COUNTY
Rigs
Monroe—Chas. Barnes, Ohio Fuel Gas 4.
B. P. & L. Uhl, Ohio Fuel Gas 3.
Prairie—David Anderson, East Ohio Gas 1.
Wayne, F. Kendall, East Ohio Gas 2.
Wm. H. Miller, Pure Oil 3.
Margaret Miller, Pure Oil 1.
Lee Durbin, Pure Oi 2.
Hardy—W. H. Uhl, East Ohio Gas 3.
Dave R. Anderson, East Ohio Gas 2.
J. R. Forgy, East Ohio Gas 4.
Mary E. Bridges, Empire Gas & Fuel 1.
Washington—H. L. Lifer, East Ohio Gas 1.
Kilbuck—Loretta House, East Ohio Gas 2.
Dell Walton, Empire Gas & Fuel 1.
Wells Drilling
Monroe—B. P. & L. Uhl, Ohio Fuel Gas 2.
Edwin M. Martin, Ohio Fuel Gas 1.
M. G. Bird, East Ohio Gas 3.
C. M. Shanks, East Ohio Gas 4.
James Allison, East Ohio Gas 2.
W. & L. Armstrong, Klise-Eckstein-McCann Oil 1.
W. R. Parson, Norwood Oil 2.
C. G. Jarvis, Norwood Oil 5.
U. S. Davenport, Empire Gas & Fuel 4.
Wm. Martin, Empire Gas & Fuel 1.
Elmer E. Connor, Empire Gas & Fuel 1.
Albert R. Mackey, Pope & Ewing 4.
J. & M. Patterson, Arkansas Fuel Oil 1.
L. N. Smith, Carter Oil 1.
Prairie—L. A. Sowash, East Ohio Gas 2.
David Anderson, East Ohio Gas 2.
Byron Kendall, Empire Gas & Fuel 1.
Richland—W. M. Manchester, East Ohio Gas 1.
Hardy—James Uhl, East Ohio Gas 4.
S. H. Sterling, East Ohio Gas 2.
Harriett McCullough, East Ohio Gas 2.
Kilbuck—Albert W. Schonaver, Ohio Oil 1.
Miller L. Pyers, East Ohio Gas 1.
Rigs, 14; wells drilling, 23; total, 37.

JACKSON COUNTY
Rigs
Coal—R. B. Rice, Ohio Fuel Supply 1.
Franklin—Geo. W. Westlake, Ohio Fuel Supply 1.
Washington—S. E. Oghler, Ohio Fuel Gas 1.
Mary O. Anthony, Ohio Fuel Gas 1.
Lick—E. Cherrington, Ohio Fuel Supply 1.
Wells Drilling
Coal—C. W. Hazlett, Ohio Fuel Supply 1.
Rigs, 5 ;wells drilling, 1; total, 6.

ATHENS COUNTY
Rigs
Carthage—Oscar Clark, Ohio Fuel Gas 4.
Dana T. Burns, Ohio Fuel Gas 2.
Troy—C. H. Ford, Ohio Fuel Supply 1.
Nettie Richardson, Ohio Fuel Supply 1.
Rome—P. D. Patton, Ohio Fuel Supply 1.
Frank Crippin, Ohio Fuel Supply 1.
Wells Drilling
Carthage—F. W. Chapman, Wm. Hawkins & Co. 1.
L. H. Allen, Sweeney & Snodgrass 4.
J. C. Wolfe, Carter Oil 1.
York—Stephen Arnot, Stevens & Co. 4.
Rigs, 6; wells drilling, 4; total, 10.

LAWRENCE COUNTY
Wells Drilling
Aid—George Carlyle, Ohio Fuel Supply 1.

HURON COUNTY
Wells Drilling
New London — Henry F. Thudum, Logan Gas 1.

ILLINOIS FIELD

Summary of Field Operations

	Comp.	Prod.	Dry	Rigs	Drg.	Ttl.
Clark	4	82	0	0	13	13
Crawford	1	0	1	1	4	5
Lawrence	2	10	1	0	2	2
Wabash	6	80	4	1	5	6
Douglas	0	0	0	0	1	1
Union	0	0	0	0	1	1
Jasper	0	0	0	0	1	1
Coles	1	0	1	0	1	1
Edwards	0	0	0	1	0	1
McDonough	0	0	0	0	1	1
Fayette	0	0	0	1	0	1
Washington	2	0	2	0	0	0
Jackson	0	0	0	0	5	5
Total April	16	172	9	4	34	38
Total March	16	572	4	5	30	35
Difference	0	400	5	1	4	3

WELLS COMPLETED
CLARK COUNTY
Casey—W. L. Slater, Gillette Oil Corp. 4 20
Martinsville—E. R. Ault, Trenton Rock Oil & Gas 8 40
Parker—G. L. Wiser, Lusk, Stratton & Co. 2 20
Hattie Briscoe, Shrider, Coats & Co. 3 2
Wells completed 4
Production 82

CRAWFORD COUNTY
Robinson—N. C. Boyd, Burns & Co. 4.. dry
Martin—Susan Tohill, Ohio Oil 11 ... abd
Wells completed 1
Dry 1
Abandoned 1

LAWRENCE COUNTY
Lawrence—Wm. Filbert, A. B. Bement 1 ..... dry
Bridgeport—W. C. Miller, Ohio Oil 39.. 10
W. C. Miller, Ohio Oil 5 ..... 4 abd
C. C. Fyffe, International & Murphy 7 ..... abd
Dennison—Sarah E. Grayson, Ohio Oil 3 ..... abd
L. A. Buchanan, Ohio Oil 41, 42.. abd
J. M. Gee, Citizens Oil 5 ..... abd
J. H. Jordan, Citizens Oil 1 ..... abd
S. J. Gee No. 2, Citizens Oil 1..... abd
Wells completed 2
Production 10
Dry 1
Abandoned 8

WABASH COUNTY
Wabash—R. Higgins, Peck & Hughes 1 dry
Holson-Dorney, Wiedner, Smith & Craig 3 ..... dry
C. E. Courter, Whitesides & Co. 2.. dry
R. & E. Higgins, Gray & Co. 1. ... dry
H. A. Price, Wirebaugh & Ballard 3 70
Wm. Shaffer, Wirebaugh & Ballard 1 10
Wells completed 6
Production 80
Dry 4

COLES COUNTY
Ashmore—J. J. Courtney, H. McCurdy & Co. 1 ..... dry

WASHINGTON COUNTY
Irvington—A. DoSellette, Alspach & Co. 1 ..... dry
J. D. Norten, Petr. Oil & Gas 1.... dry
Wells completed 2
Dry 2

CLARK COUNTY
Wells Drilling
Casey—Wheeler-Baker, Arkansas Fuel Oil 2.
G. W. Harrodd, H. A. Wortz & Co. 1.
Martinsville—Harriett Slater, Titus Oil 3.
Jas. Carper, Trenton Rock Oil & Gas 11.
A. W. Cavolt, Ohio Oil 4.
W. W. Slater, Ferriman & Co. 2.
Thos. Ramsey, Ferriman & Co. 2.
Parker—Hattie Briscoe, Shrider, Coats & Co. 3.
Nat. Lee, Shrider, Coats & Co. 1.
J. W. Bartice, Lusk, Stratton & Co. 1.
N. P. Daugherty, Bullock & Co. 1.
Johnson—Chas. Snearly, Squires & Co. 13.
Marshall—R. E. Merrifield & Co. 1.
Rigs, 0; wells drilling, 13; total, 13.

CRAWFORD COUNTY
Rigs
Licking—Silas Wilkins, Peoples Bank & Trust 2.
Wells Drilling
Oblong—Edward Henry, Dinsmore Oil 3.
Martin—Brubaker, W. W. Splane 7.
Honey Creek—C. S. Jones, McNeal & Co. 5.
D. A. Funk, Ann Phipps 7.
Rigs, 1; wells drilling, 4; total, 5.

LAWRENCE COUNTY
Wells Drilling
Lawrence—G. C. Dunlap, Samuels, Duffield & Co. 10.
Dennison—Alf Vandermark, Ohio Oil 26.
Rigs, 0; wells drilling, 2; total, 2.

WABASH COUNTY
Rigs
Mt. Carmel—John Geiger, Andrews & Smith 1.
Wells Drilling
Wabash J—Wm. Shaffer, Wirebaugh & Ballard 2.
H. A. Price, Wirebaugh & Ballard 3.
C. E. Courter, Whitesides & Co. 3.
Rance, Higgins, Timberlake & Co. 1.
W. F. Courter, Hartman, Parrott & Co. 4.
Rigs, 1; wells drilling, 5; total, 6.

DOUGLAS COUNTY
Wells Drilling
Sargent—W. E. Brown, Douglas Oil 1.

UNION COUNTY
Wells Drilling
Bald Knob—Near Alta Pass, W. MacSmith 1.

JASPER COUNTY
Wells Drilling
Smallwood—N. Cunningham, Geo. Danvers 1.

COLES COUNTY
Wells Drilling
Ashmore—J. M. Oliver, H. McCurdy 1.

EDWARDS COUNTY
Rigs
North of Graysville—Geo. Porter & Co. 1.

McDONOUGH COUNTY
Wells Drilling
Lamoine—Adams, Charles Measley 1.

FAYETTE COUNTY
Rigs
Pope—John Baxter, H. McCurdy 1.

JACKSON COUNTY
Wells Drilling
Bradley—Rickenbaugh No. 2, Mid-Egypt Oil & Gas 3.
Rickenbaugh No. 1 Mid-Egypt Oil & Gas 6.
Arley, Unknown 1.
George Ziebold, Unknown 1.
Section 14, Unknown 1.
Rigs, 0; wells drilling, 5.

INDIANA FIELD

Summary of Field Operations

	Comp.	Prod.	Dry	Rigs	Drg.	Ttl.
Jay	0	0	0	0	2	2
Adams	0	0	0	0	1	1
Delaware	0	0	0	0	2	2
Randolph	0	0	0	1	0	1
Gibson	1	15	0	0	1	1
Pike	4	74	0	0	5	6
Sullivan	0	0	0	0	1	1
Hendricks	0	0	0	0	1	1
Jackson	0	0	0	0	1	1
Shelby	0	0	0	0	1	1
Knox	1	0	1	0	0	0
Allen	0	0	0	0	1	1
Spencer	0	0	0	0	1	1
Lagrange	0	0	0	0	1	1
Total April	6	89	1	1	18	19
Total March	6	125	2	1	14	15
Difference	0	36	1	0	4	4

One gas well was completed in Sullivan County in March.

WELLS COMPLETED
GIBSON COUNTY
Barton—G. W. Harper, Consolidated Oil & Nelson 1 15
PIKE COUNTY
Monroe—G. W. Taylor, Consolidated Oil & Nelson 1 45
Della Wilson, Ohio Oil 1 8
Logan—Chas. Rumble, Miller & Davis 1 15
B. Shafer, H. E. Merrifield Trus. 8. 6
Wells completed 4
Production 74

KNOX COUNTY
Decker—W. M. Steckler, Walter Sargent 1 ..... dry

JAY COUNTY
Wells Drilling
Penn—C. C. Harris, Geological Products Corp. 3.
Richland—A. N. Wilson, C. E. Whittongill 1.
Rigs, 0; wells drilling 2, total, 2.

ADAMS COUNTY
Wells Drilling
Wabash—J. H. Starr, D. L. Thompson 6.

DELAWARE COUNTY
Wells Drilling
Delaware—L. M. Coons, Clark & Hawkins 7.
C. H. McNally, W. W. Hawkins, 3.
Rigs, 0; wells drilling, 2; total, 2.

RANDOLPH COUNTY
Rigs
Greene—W. Cline, T. O. Thorp 2.

GIBSON COUNTY
Wells Drilling
Barton—G. W. Harper, Consolidated Oil & Nelson 2.

PIKE COUNTY
Wells Drilling
Monroe—T. J. Parker, Ohio Oil 2.
Carl Skinner, Ohio Oil 1.
G. W. Taylor, Consolidated Oil & Nelson 2.
Logan—Chas. Rumble, Miller & Davis 2.
B. Shafer, H. E. Merrifield Trus. 9.
Rigs, 0, wells drilling, 5; total, 5.

SULLIVAN COUNTY
Wells Drilling
Turman—W. W. Harris, J. F. Bolinger & Co. 3.

HENDRICKS COUNTY
Wells Drilling
Clay—W. E. Christy, Amo Oil 1.

JACKSON COUNTY
Wells Drilling
Near Freetown—Unknown 1.

SHELBY COUNTY
Wells Drilling
Van Buren—J. Harve Snyder, L. C. Nicholson 1.

ALLEN COUNTY
Wells Drilling
Near Baldwin—E. Stevenson 1.

SPENCER COUNTY
Wells Drilling
Dale—Sec. 15-4e-5w—Huppert, Murray, Howard & Co. 1.

LAGRANGE COUNTY
Wells Drilling
Near Howe—Howe Oil & Gas 1.

KENTUCKY-TENNESSEE

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Warren	23	517	2	0	0	24	24
Allen	25	174	10	0	2	22	24
Barren	36	252	9	1	5	32	37
Owensboro	12	67	6	0	0	16	16
Cumberland-Monroe	9	539	0	1	0	14	14
Russell	1	0	1	0	0	2	2
Logan	0	0	0	0	0	2	2
Simpson	1	10	0	0	1	1	2
Metcalf	0	0	0	0	0	5	5
Edmonson	0	0	0	0	0	1	1
Wayne	17	249	5	0	0	19	19
Wolfe	3	44	0	0	0	3	3
Estill	2	6	0	0	0	3	3
Jackson	1	0	0	1	0	1	1
Clay	0	0	0	0	0	1	1
Lee-Owsley	12	60	8	1	2	7	9
Lawrence-Johnson	12	479	0	0	3	21	24
Johnson-Magoffin	10	85	0	1	5	9	14
Floyd	5	0	1	4	0	12	12
Elliott	2	4	1	0	0	1	1
Rowan	2	0	0	2	0	0	0
Madison	0	0	0	0	0	1	1
Flemming	1	5	0	0	0	0	0
Greenup	0	0	0	0	1	3	4
Martin	0	0	0	0	0	2	2
Knox	0	0	0	0	0	1	1
Morgan	1	20	0	0	0	2	2
Bell	1	0	1	0	0	0	0
Boyd	0	0	0	0	0	1	1
Laurel	1	0	1	0	0	0	0
Harlan	1	0	1	0	0	0	0
Kentucky	178	2,511	46	11	19	206	225
Tennersee	2	125	0	0	6	23	29
Mississippi	7	0	7	0	5	20	25
Alabama	0	0	0	0	1	9	10
Georgia	0	0	0	0	1	4	5
Total April	187	2,636	53	11	32	262	294
Total March	95	667	28	7	29	286	315
Difference..	92	1,969	25	4	3	24	21

WELLS COMPLETED
WARREN COUNTY
Bowling Green—Price-Hall, Ruby Cons. Dev. Co. 6 20
Jess Shanks, Amfot Oil Corp. 8.... 22
Jess Shanks, Amfot Oil Corp. 9 10
Jess Shanks, Amfot Oil Corp. 10... 20
Gillespie, H. Z. Clark, trustee 5.... 15
Gillespie, Gillespie Oil Corp., 10.. 15
Bryant, Cunninghan & Henry 8.. 15
Morehead, Lucille Oil Synd. 6.... 4
G. Rigglewood, H. J. Dobson, 5.... 3
Stanley, Bolling & Loman 1 5
Shannon, Bolling & Loman..... 15
Dr. Moss, Frank Fritz 6 ..... dry
Ford, Roy Hogan, 6 100
Ford, Roy Hogan 6 100
Dr. Moss, Frank Fritz, 5 7
Smith, Rockfield Oil Co. 13 50
Covington, Blk. 7 Zimmer & Co. 8 .. 3
Wilson, George McGinley 4 55
Wilson, George McGinley 5 49
Biddle, Cader O. & Co. 22 1
Montague, Evans and others 1 .. dry
C. A. Keller, Westland Oil Corp. 27 5
Bronson, Takay Oil Co. 14 3
Wells completed 23
Production 517
Dry 3

ALLEN COUNTY
Scottsville—Lee Moore, Lee Moore 4.. 6
Straight, M. W. Graham 2 3
J. L. Grubbs, Rehn & Ogle 15 5
R. R. Williams, H. Grey 1 2
E. D. Morehead, Rehn & Ogle 1.... 2
Reynolds, J. S. Albertson 1 ..... dry
T. Hinton, unknown parties 2 6
V. A. Frost, Meredith & Co. 6 10
Kennedy, Hice & Co. 3 ..... dry
E. Britt, R. A. McLain 1 4
J. W. Frost, R. A. McLain 10..... 20
J. R. Hornbuckle, White Plains O. & G. Co. 8 ..... dry
J. R. Hornbuckle, White Plains O. & G. Co. 9 7
A. T. Hinton, White Plains O. & G. Co. 17 5
R. J. Dinwiddie, Work & Son 1.... dry
Carpenter-Dent, J. W. Leach 10 ... dry
Carpenter-Dent, J. W. Leach 11... dry
Sid Goodrum, Central Southern Oil Co. 2 ..... dry
Bill Dennis, Bastrus & Co. 1 ..... dry
Carver, Bastrus & Co. 5 2
E. L. Ayers, Wynn, Lowe & Co. 15.. 2
E. L. Ayres, Wynn, Lowe & Co. 16 dry
Unknown, Barow Bros. 1 ..... dry
Jones, H. A. Kiser 1 6
Jones, H. A. Kiser 2 10
Wells completed 31
Production 174
Dry 10

BARREN COUNTY
Glasgow—Hans-Gassaway, Fred Moore 2 6
Moore, Fred Moore 8 16
Moore, Fred Moore 9 14
Price, Stafford & Roedener 3..... 1
Ritchie, Star Oil Co. 16..... 11
Ritchie, Star Oil Co. 17..... 14
Richardson, Star Oil Co. 1 14
Lewis, Stafford, Scott & Co. 2 ..... dry
Childress, Kopel Oil Co. 7 ..... dry
Burris, Henderson Oil Co. 4..... 6
Mack Mansfield, Wiggins & Gillespie 2 3
Gooden, Carter Oil Co. 6 2
C. Bradford, Messenger, Pritchard & Blumm 1 7
John Church, Wood Oil Co. 1 7
W. M. Church, No. 2, Wood Oil Co. 3 10
W. M. Church, Wood Oil Co. 6 12
W. M. Church, No. 2, Wood Oil Co. 7 10
Duff, Wood Oil Co. 1 ..... dry
Dodder, Reese & Co. 2 1
Dean, T. J. Samson 1 ..... dry
Preston, T. J. Sampson, 1 ..... gas
Ben Meyers, T. J. Sampson 2 1
Evans, Harrington & Norris 3..... 14
Hall Baker, Consolidated Gas Co. 7 14
Hall Baker, Consolidated Gas Co. 8 15
Hall Baker, Consolidated Gas Co. 9 20
Hall Baker, Consolidated Gas Co. 10 dry
Bradford, Consolidated Gas Co. 2.. 6
Hatfied, Big Jack O. & D. Co. 2.. dry
John Welles, L. J. Emery Jr. & Sons 1 ..... dry
Depp-Greer, L. J. Emery, Jr. & Sons 5 20
C. E. Bellamy, L. J. Emery, Jr. & Sons 6 ..... dry
Cox, L. J. Emery, Jr. & Sons 1.... dry
McLaughlin, Porter & Co. 3..... 1
S. Chamberlin, T. L. Gorby, 2..... 15
S. Chamberlin, T. L. Gorby 1 4
Wells completed 36
Production 252
Dry 6
Gas 1

OWENSBORO DISTRICT
Owensboro—M. Mosley, Mosley Oil Co. 1 ..... dry
Gabbard, Pellville Oil Co. 1 ..... dry
Beauchamp, C. A. Leeper 2 ..... dry
J. M. Bartley, Wood Oil Co. 3..... dry
J. M. Bartley, Wood Oil Co. 4 ..... dry
J. H. Evans, Thomas & Co. 3..... dry
J. H. Evans, Thomas & Co. 4..... 6
Col. Powers, Pennsy-Ind. Oil 1.... 36
J. H. Phillips, Pennsy.-Ind. Oil 1.. 5
Widow Crowe, C. E. Daugherty 3.. 2
J. W. Smith, Panther Creek Oil 4.. 18
J. O. Brown, Bert Thompson 5.... 15
Wells completed 13
Production 67
Dry 6

CUMBERLAND-MONROE COUNTIES
Burkesville—Maude Blythe, Gartlan et al 3 200
Coop, Kanawha Oil Co. 1 100
Huddleston-Payne-Carter & Combest 3 200
T. Bow, Judio Co. Inc. 1 7
T. Bow, Judio Co., Inc. 2..... 4
Rathford, Richardson & Goff 20
C. T. Cheatham, Robt. Stead 1.... 1
J. A. Dickens, E. M. Treat & Co. 6 gas
Strange, Robt. Stead 3 3
Wells completed 9
Production 539
Gas 1

RUSSELL COUNTY
Creelsboro—A. O. Lay, Redman & Co. 1 dry

SIMPSON COUNTY
Franklin—Hogan, Small & Sully 8.... 10

(EASTERN DIVISION)
WAYNE COUNTY
Monticello—J. N. Huffaker, Bridgman & Co. 3 ..... dry
T. C. Morrow, Beaver Pet. Co. 9 .. 5
Morrow, Bowden & Co. 4..... 6
Burnett, Superior 4 40
Coffee heirs, Bell Bros. 1 1
Elam, Wright & Bell 1 4
J. A. Brown, Marsh & Shearer 2.. 10
J. A. Brown, Marsh & Shearer 3.. 15
Griffin, Shearer & Dillion 1 10
Stearns Co., Brown & Co. 1 5
B. S. Huffaker, Wood Oil Co. 25 .. dry
C. W. Burnett, Frank Daugherty 2 dry
Lovelace, Hogue & Co. 1 ..... dry
Miller, G. Backer 1 ..... dry
Burnett, G. Smith, 12 10
J. A. Brown, Marsh & Shearer 4.. 15
J. A. Brown, Marsh & Shearer 5.. 20
Wells completed 17
Production 249
Dry 4

WOLFE COUNTY
Torrent—Jas. Robert, Atlantic Oil Prod. Co. 3 35
Ann Horton, McCombs Prod. & Rfg. Co. 9 4
E. B. Roberts, Federal Oil Co. 5.. 5
Wells completed 3
Production 44

ESTILL COUNTY
Irvine—Smith, Clark & Co. 2..... 4
Jas. Arthur, Adams Oil Co. 16.... 2
Wells completed 2
Production 6

JACKSON COUNTY
McKee—Near McKee, Upchurch Bros. 1 gas

LEE-OWSLEY COUNTIES
Idamay—Gourley-Redman-McGuire Petroleum Co. 5 2
Daniels-Foreman, Henry Oil Co. 2 47
Harve Marcum, Pet. Expo. 1..... gas
Mart Abston, Pet. Exp. 1 ..... dry
C. Gourley, Pet. Exp. 3 ..... dry
White Oak Creek, Mart Davis 2.. dry
Hamp Flannery, Atlantic O. P. 2.. dry
Hamp Flannery, Atantic O. P. 1.. dry
Flannery, Jewell & Hobbs 1 ..... dry
At Sturgeon Creek, Beamer & Co. 1 dry
New Era Land Co., D. L. Johnson 1 ..... dry
J. D. Smythe, Superior Oil Corp. 24 6
Wells completed 13

Production 60
Dry 8
Gas 1

LAWRENCE-JOHNSON

North Weir—Ira Lester, Wm. Stone & Co. 7 12
Lizzie Collier, Garrison & Townsend 1 10
J. N. Sparks, Garrison & Townsend 2 15
Foster-Ferguson, Garrison & Townsend 5 12
C. K. Dobyne, Garrison & Townsend 8 20
P. P. Holbrook, Union Gas & Oil Co. 21 50
W. D. Lester, Union Gas & Oil Co. 6 100
W. D. Lester, Union Gas & Oil Co. 7 80
C. K. Dobyne, Union Oil & Gas Co. 8 70
R. N. Sparks, No. 2, Union Oil & Gas Co. 2 30
M. E. Sparks, Union Oil & Gas Co. 10 40
C. K. Dobyne, Union Oil & Gas Co. 9 40

Wells completed 12
Production 479

JOHNSON-MAGOFFIN

South Weir—Patton Borders, Reno O. & G. Co. 9 8
H. Grace, Hudson & Collins 7 15
Jesse Adams, Model Oil Co. 3 20
H. Patrick, Burning Fork Synd. 1 10
C. Sayer, Bed Rock Pet. Co. 3 7
B. F. Whit, Marie Oil Co. 3 4
J. H. Arnett, Bed Rock Pet. Co. 18 10
S. Howard, Mid South Pet. Co. 5 4
S. Howard, Mid South Pet. Co. 6 7
Allen, Holbrook & Co. 1 ..... gas

Wells completed 10
Production 85
Gas 1

FLOYD COUNTY

Drift—T. Collins, Yolondo Oil Co. 1 .. gas
American Roller Mills Co., American Roller Mills Co. 1 ..... gas
American Roller Mills Co., American Roller Mills Co. 2 ..... gas
American Roller Mills Co., American Roller Mills Co. 3 ..... gas
C. D. Potnack, Carter Oil 1 ..... dry

Wells completed 5
Dry 1
Gas 4

ELLIOTT COUNTY

Sandy Hook—J. C. Hunter, Hupp, Duff & Co. 1 4
J. C. Hunter, Hupp, Duff & Co. 1 dry

Wells completed 2
Production 4
Dry 1

ROWAN COUNTY

Morehead—City limits, McDonald & McGuire 2 ..... gas
At Mt. Hope, McKinney Bros. 1 ... gas

Wells completed 2
Gas 2

FLEMMING COUNTY

Colfax—Unknown, Dr. Connely 1 5

MORGAN COUNTY

Cannel City—Sam Blanton, R. G. Gillespie 5 5

BELL COUNTY

Middlesboro—Canada Mt., Canada Peak Oil Co. 1 ..... dry

LAUREL COUNTY

London—L. Hubbard, Piney O. & G. Co. 1 ..... dry

HARLAN COUNTY

Harlan—Near Colfax, Rex G. Carpenter 1 ..... dry

TENNESSEE

Jackson County—

Tinsley's Bottom—Draper, Dafoe and associates 2 100

Morgan County—

Sunbright—Fee, Russell Dev. Co. 1.... 25

MISSISSIPPI

Union County—

17- 7-3 J. Woodson, Minyard Well Co. 1 ..... dry

Copiah County—

15- 1- 3 White, B. H. White 1..... dry
6- 2- 1 Didlake, Marshall Oil Co. 1.. dry

Wells completed 2
Dry 2

Leake County—

Conway—Near Conway, Chas. H. Stoll 1 dry

Madison County—

7-19- 4 Nichols, Madison County Oil Co. 1 ..... dry

Perry County—

Richton—Donald Oil Co. 1 ..... dry

Rankin County—

7- 3- 4 Fee, Finkbine Lumber Co. 1.. dry

WARREN COUNTY
Wells Drilling

Bowling Green—W. R. Hunton, P. H. Laveile, 7.
Porter, Ennis & Co. 3.
Smith, Essex Oil Co. 6.
Harry Rigglewood, McCombs Prod. & Rfg. Co. 4.
Kimbro, Rockfield Oil Co. 4.
V. Andrews, Illinois-Kentucky Oil Synd. 1.
Price, Caskey & Pryor 6.
Dr. Lewis, Cadet O. & G. Co. 1.
Biddle, Cadet O. & G. Co. 23.
Stewart, L. C. Madison 1.
Calvin Smith, W. Roy Hogan 1.
K. S. Bland, J. H. Richards 1.
H. H. Hester, Hinson & Co. 1.
Jess Shanks, Amfot Oil Corp. 11.
G. Davenport, Tract No. 2, T. A. Sheridan, T. 9.
Ora S. Davenport, Onsel-Harnahan Oil Co. 4.
C. A. Keller, Westland Oil Corp. 28.
Grimes, Wood Oil Co. 9.
Covington, Block No. 8, Beaver Petroleum Co. 9.
Wilson, George McGinley 6.
Cox, Stewart & Bannon 22.
Al Covington, J. A. Anderson 9.
Rigs, 0; wells drilling, 24; total, 24.

ALLEN COUNTY
Rigs

Scottsville—Carver, McCandless & Co. 12.
Clack, Neeley, Lamp & Co. 3.

Wells Drilling

Scottsville—W. E. Oliver, Gainesville Oil Synd. 3.
Lee Moore, Lee Moore 5.
A. W. Duke, Victor De Caigney 11.
F. Dyson, Ruby Cons. Dev. Co. 11.
Walker, Central Southern Oil Co. 7.
Alderson, Lee & Co. 2.
Unknown, Roy Hinton 1.
W. M. Foster, White Plains O. & G. Co. 19.
A. T. Hinton, White Plains O. & G. Co. 18, 19.
Britt, R. A. McLean 2.
J. W. Frost, R. A. McLean 11.
Kennedy, Sutton & Co. 2.
Oscar Foster, Unk. 1.
Sam Berion, Unk. 1.
W. McReynolds, Mrs. McAlpine 10.
A. E. Hooten, C. Wilkes 1.
R. J. Howell, F. F. Blanchard 1.
Richards, H. A. Kiser 1.
Jones, H. A. Kiser 3.
D. G. Thacker, C. B. Brown 7.
R. O. Mulligan, C. Foster 4.
Rigs, 3; wells drilling, 22; total, 24.

BARREN COUNTY
Rigs

Glasgow—Free, Star Oil Co. 6.
B. Sott, Wiggins & Gillespie 9.
Bybee, T. L. Gorby 1.
Price heirs, Roedener & Maxey 4.
Warder, Elem O. & G. Co. 9.

Wells Drilling

Glasgow—Burton heirs, Shriver & Co. 1.
Ochs, Alladin Oil Co. 2.
Drennan, Ziegler Bros. 5.
Mack Mansfield, Wiggins & Gillespie 3.
Moore, Fred Moore 10.
Burris, Henderson Oil 7.
Joe Star, Jr., Star Oi Co. 1.
Ritchie, Star Oil Co. 18, 19.
Ziegler, Houchins Leasehold Co. 7.
Green, Ziegler Bros .1.
Everett, T. L. Gorby 1.
Cassidy, T. L. Gorby 3.
John A. Dodd, Hammerely & Co. 1.
McLaughlin, Porter & Co. 4.
Depp & Greer, L. J. Emery, Jr. & Sons 5.
Preston, L. J. Emery Jr. & Sons. 1.
Judge Bybee, Citizens Oil Co. 1.
Britt, Jewell, Smith & Adams 1.
Joe Harlue, Carter Oil Co. 1.
Temple Hill, S. L. Curtis 1.
Franklin, Williams & Co. 1.
Burr, Henderson Oil Co. 1.
Jones, Esslinger Oil 3.
Harvey, Wood Oil Co. 1.
W. M. Church, Wood Oil Co. 7.
Joe Duff, Wood Oil Co. 2.
Grover Evans, Wood Oil Co. 1.
Evans, Harrington & Norris 4.
Bradford, Consolidated Gas Co. 3.
Stein, Consolidated Gas Co. 1.
Oscamp, Oscamp Dev. Co. 25.
Rigs, 5; wells drilling, 32; total, 37.

OWENSBORO DISTRICT
Wells Drilling

Owensboro—Heffler, Thomas & Co. 1.
Jim Ballard, Evansville Oil Co. 1.
Amada Stewart, Kentucky Oil Co. 17.
J. O. Brown, Albert Thompson 6.
E. Barlow, C. A. Leeper 5.
Veach, C. A. Leeper 1.
J. C. Collier, C. A. Leeper, 2.
Dick Spurrier, I. N. Harkless 3.
J. T. & A. T. Casey, I. N. Harkless 7.
R. M. Miller, Panther Creek Oil Co. 13.
F. V. Miller, Panther Creek Oil Co. 9.
O. G. Ward, C. E. Daugherty 2.
Widow Crowe, C. E. Daugherty 4.
Jess Swope, Nutty & Pyle 2.
Col. Powers, Pennsy-Ind. Oil Co. 2.
J. H. Phillips, Pennsy-Ind. Oil Co. 2.
Rigs, 0; wells drilling, 16; total, 16.

CUMBERLAND-MONROE COUNTIES
Wells Drilling

Burkesville—Maude Blythe, M. L. Gartlan, trustee 4.
J. M. Hughes, McClintock and others 1.
M. E. Coop, W. S. Raydure 4.
Davidson, Wilcox Bros. 1.
Sharp, Wilcox Bros. 1.
Rainey, Wilcox Bros. 3.
Wess Nun, Hook & Wise 1.
Coop, Kanawha Oil Co. 2.
Judio Dome, Judio Co., Inc., 1.
Mittie Garner, E. M. Treat & Co. 1.
Thompkins, Vedder Oil 8.
M. C. Scott, Vedder Oil 2.
Less Butler, W. P. Mason, 1.
Rigs, 0; wells drilling, 14; total, 14.

RUSSELL COUNTY
Wells Drilling

Creelsboro—B. F. Leach, Carnahan Oil Co., 4.
N. Blesde, Creelsboro parties 1.
Wells drilling, 2.

LOGAN COUNTY
Wells Drilling

Auburn—Jim Peart, Mullin & Reagle 7, 8.
Wells drilling, 2.

SIMPSON COUNTY
Rig

Franklin—B. F. Summera, E. M. Treat & Co. 13.

Well Drilling

Franklin—Hogan, Small & Sully 9.
Rigs, 1; wells drilling, 1; total, 2.

METCALFE COUNTY
Wells Drilling

Edmonton—A. J. Thompson, T. Petty & Co. 1, 2.
Near Edmonton, J. C. Richards 1.
L. H. Thompson, Hartramf & Co. 1.
Bell, A. W. Richards 3.
Wells drilling, 5.

EDMONSON COUNTY
Well Drilling

Smith's Grove—Dunham, 32 Oil Co. 2.

EASTERN DIVISION
WAYNE COUNTY
Wells Drilling

Monticello—W. T. Ashberry, J. H. Hatfield 4.
P. L. Harmon, J. C. Brammer 4.
Bridgman, Bowden & Co. 1.
Castillo, Rex C. Carpenter 1.
T. C. Morrow, Beaver Petroleum Co. 10.
Simpson, E. D. Shearer 1.
A. W. Campbell, Clark Oil & Gas Co. 7.
J. Harve Duncan, E. G. Hogue 12.
Dabney, Superior Oil Co. 7.
C. W. Burnett, C. E. Daugherty 3.
Upchurch, Head, Brown and others 4.
Denner, Wise & Co. 1.
S. Henninger, Illiken Oil Co. 2, 3.
T. T. Davis, Vulcan 101 Co. 15.
Elam, Wright & Bell 2.
Bridgman, Spradlin & Marsh 4.
Mercer, Pyle & Vogle 1.
H. Thompson, W. M. Black 1.
Wells drilling, 19.

WOLFE COUNTY
Wells Drilling

Torrent—Lizzie Cable, Atlantic Oil Producing Co. 1.
Spencer heirs, Kentucky Star Oil Co. 3.
Near Glancaster, B. G. Pratt 1.
Wells drilling, 3.

ESTILL COUNTY
Wells Drilling

Irvine—J. Henry, E. W. Trook & Co. 2.
Millard Ballard, T. A. Gleason 7.
Jas. Arthur, Brenner & Adams 17.
Wells drilling, 3.

JACKSON COUNTY
Well Drilling

McKee—Near McKee, Upchurch Bros. 2.

CLAY COUNTY
Well Drilling

Foreman area—Unknown, Standard Oil Co. of Kentucky 1.

LEE AND OWSLEY COUNTIES
Rig

Idamay—Andy Coombs, Coombs Bros. 6.
Logan Coombs, Coombs Bros. 1.

Wells Drilling

Idamay — Gourley-Redman-McGuire, Black Gum Oil Co. 14.
J. S. Coombs, Coombs Bros. 1.
Spencer heirs, Bush & McCandless 1.
Huntington, Huntington Oil Synd. 5.
Daniels-Foreman, Henry Oil Co. 3.
New Era Land Co., Johnson et al 2.
Widow Porter, Hupp & Duff 4.
Rigs, 2; wells drilling, 7; total 9.

LAWRENCE AND JOHNSON COUNTIES
Rig

North Weir—J. J. Skaggs, Cumberland Pet. Co. 4.
W. E. Skaggs, Hovis & Young 3.
C. Osborne, Skaggs, Miller & Co. 1.

Wells Drilling

North Weir—Robt. Fyfee, Pluto Oil Co. 6.
Sparks, Carter Oil Co. 1.
J. D. Bond, J. T. Hare & Son 3.
Ira Lester, Wm. Stone & Co. 9.
B. R. Hamilton, David Fox 4.
J. Lyon, Keaton O. & G. Co. 29.
Lizzie Collier, Garrison & Townsend 2.
L. T. Sparks, Garrison & Townsend 5.
J. N. Sparks, Garrison & Townsend 3.
C. K. Dobyne, Garrison & Townsend 19.
W. A. Bailey, Hupp & Duff 1.
C. E. Frailey, Union Gas & Oil Co. 2.
J. J .Gambill, Union Gas & Oil Co. 36.
Caney Sparks, Union Gas & Oil Co. 4.
Wm. Lester, Union Gas & Oil Co. 9.
L. H. Skaggs, Union Gas & Oil Co. 10
L. P. Ferguson, Union Gas & Oil Co. 9.
C. K. Dobyne, Union Gas & Oil Co. 10.
W. P. Lester, Union Gas & Oil Co. 8.
R. N. Sparks, Union Gas & Oil Co. 3.
P. P. Holbrook, Union Gas & Oil Co. 32.
Rigs, 3; wells drilling, 21; total 24.

JOHNSON-MAGOFFIN
Rigs

South Weir—W. H. Collins, Petroleum Exploration 3.
Eliz Powers, Clyde Oil Co. 6.
Sam Blanton, R. G. Gillespie, 16, 17.
J. D. Moore, R. G. Gillespie, 3.

Wells Drilling

South Weir—Allen, Holbrook & Co. 2.
Wm. Prater, Structure O. & G. Co. 10.
Spurlock, Atlantic Oil Producing Co. 1.
Bailey heirs, Diamond Pet. Co. 4.
Wheeler, Hudson & Collins 1.
Julia Sayler, Magoffin Dev. Synd. 3.
J. H. Gardner, New Domain O. & G. Co. 10, 11.
F. M. Tackett, M. A. Wheeler & Co. 1.
Rigs, 5; wells drilling, 9; total, 14.

FLOYD COUNTY
Wells Drilling

Drift—Kate Spencer, Eastern Carbon Blk. Co. 1.
Maude Cooley, Eastern Carbon Blk. Co. 1.
John Martin, New Domain O. & G. Co. 4, 5.
H. D. Martin, Ohio Fuel Oil Co. 1.
M. Martin, Ohio Fuel Oil Co. 1.
Maryland Martin, Louisville G & Elec. Co. 1.
Tandy Martin, Louisville G & Elec. Co. 2.
Wm. Martin, New Domain O. & G. Co. 3
Summit area, American Roller Mills 4, 5, 6.
Rigs, 0; wells drilling, 12; total, 12.

ELLIOTT COUNTY
Wells Drilling

Sandy Hook—Bud Pritchard, Evans & Co. 1.

MADISON COUNTY
Wells Drilling

Boonesboro—D. J. Williams, J. N. Thompson 1.

GREENUP COUNTY
Rigs

Greenup—Baglin, Young & Co. 1.

Wells Drilling

Greenup—Tobias Burke, L. C. Young Jr. 1.
Reuben Potter, Foreman & Co. 1.
Allen, Thompson & Co. 1.
Rigs, 1; wells drilling, 3; total, 4.

MARTIN COUNTY
Wells Drilling

Inez—Alfred Carter, Big Derby O. & G. Co. 1.
Mayo properties, Leonard & Ralph 2.
Rigs, 0; wells drilling, 2; total, 2.

KNOX COUNTY
Wells Drilling

Barbourville—Stinking Creek, Standard Oil Co. Ky. 1.

MORGAN COUNTY
Wells Drilling

Cannel City—Goose, Blue Hills Pet Co. 4.
George Heltone, Frank Conley 1.
Rigs, 0; wells drilling, 2; total, 2.

BOYD COUNTY
Wells Drilling

Ashland—Al Bartram, unknown parties 1.

TENNESSEE
CLAY-JACKSON COUNTIES
Wells Drilling

Cookeville—Ben Hix, Dafoe & Co. 1.
Williams, Dafoe & Co. 4.
Hamp. Lynn, Dafoe & Co. 3.
Osgathorpe, Dafoe & Co. 1.
Rogers, Dafoe & Co. 1.
Draper, Rex-Pryamid Oil Co. 1.
Tinsley, Reape & Co. 1.
Bailey, Young Oil Co. 1.
Arms, Young Oil Co. 1.
Spivey, A. C. Edenfield 1.
At Roaring River, unknown parties 1.
Rigs, 0; wells drilling, 11; total, 11.

MORGAN COUNTY
Rigs

Sunbright—P. J. Nell, Russell Development Co. 1.
Unknown, C. A. Phelps & Co. 1.

Wells Drilling

Sunbright—Russell lands, Russell Development Co. 2.
Widow Ellis, Russell Development Co. 1
Fee, Galloway Co. 1.
Galloway, 500 acres, Louisa Co. 1.
Unknown, Dr. S. H. Jones, 1.
Rigs, 2; wells drilling, 5; total 7.

OVERTON COUNTY
Wells Drilling

Jamestown—Mitchell Creek, W. H. Boswell 1.

FENTRESS COUNTY
Wells Drilling

Bob's Bar—Unknown, Anderson, Hagemeyer & Toney, 1, 2.
Rigs, 0; wells drilling, 2; total, 2.

MACON COUNTY
Wells Drilling

Center of County—Jim Haynes, Carson & Co. 1.

SCOTT COUNTY
Wells Drilling

Glenmary—Bryant, Superior Oil Corp. 1.

SUMNER COUNTY
Wells Drilling

Gallatin—Stewart-Terrell, Dr. Sims 2.

OHIO COUNTY
Wells Drilling

Trimble—M. A. Gaulding, Richard & Miller 1.

MADISON COUNTY
Rigs

Jackson—Jodie Howard, Continental Oil Co. 1.

FAYETTE COUNTY
Rigs

Somerville—Joe Perry, M. A. Strickland 1.

HAMILTON COUNTY
Rigs

Chattanooga—Near Daisy, Dryden Oil Co. 1.

RHEA COUNTY
Rigs

Dayton—Near Dayton, unknown parties 3.

MISSISSIPPI

CHICKASAW COUNTY
Wells Drilling

Sec. 8-13-3—J. Flarity, Danner G. & O. Trust Co. 2.

CLAY COUNTY
Rigs

West Point—Unknown, Gulf Dev. Co. 1.

UNION COUNTY
Wells Drilling

Wallerville—Near New Albany, Jean F. de Villard 1.

FRANKLIN COUNTY
Wells Drilling

Sec. 1-5-3—McGehee, Fletchering & Co. 1.

HINDS COUNTY
Wells Drilling

Sec. 25-6-1—Mrs. Reeder, Jackson Oil Co. 1.

JEFFERSON COUNTY
Wells Drilling

Truly—Manhatten-Texas Pet. Co. 1.

JACKSON COUNTY
Wells Drilling

Utica—Jackson Oil Co. 1.

LAFAYETTE COUNTY
Wells Drilling

Sec. 27-11-4—K. Banks, Kinsey & Co. 1.

MARSHALL COUNTY
Wells Drilling

Sec. 33-2-3—Hoffman, T. B. Slick 1.

LOWNDES COUNTY
Wells Drilling

Sec. 12-8-1—Billups, Anderson Drg. Co. 1.

LINCOLN COUNTY
Wells Drilling

Hartman—Anderson Drg. Co. 1.

WASHINGTON COUNTY
Wells Drilling

Sec. 30-14-9—Williams, Alhambra O. & G. Co. 3.

ITAWAMBA COUNTY
Wells Drilling

Sec 7-10-9e—J. E. Summer, Stonum & Co. 1.

GRANADA COUNTY
Wells Drilling

Granada—Borden & Co. 1.

PANOLA COUNTY
Wells Drilling

Sec. 35-27-2—Kilhne, Courtland O. & G. Co. 2.

CLAIBORNE COUNTY
Wells Drilling

Sec 5-11-2—Bill Young, Mississippi Exploration Co. 1.
Sec. 6-11-1—Westside, Michael Zink 1.
Rigs, 0; wells drilling, 2; total, 2.

HOLMES COUNTY
Wells Drilling

Sec. 18-13-1—Free Run Oil Co. 1.

RANKIN COUNTY
Rigs

Pearl River—New York parties 1.

Wells Drilling

Sec. 7-3-4—Fee, Finkbone Lumber Co., 2.
Rigs, 1; wells drilling, 1; total, 2.

SCOTT COUNTY
Wells Drilling

Sec. 21-6-8—Graham, Mississippi Oil & Gas Synd 1.

TALLAHATCHIE COUNTY
Rigs

Sec. 23-25-2—Harvey-Shreveport parties 1.

CALHOUN COUNTY
Rigs

Calhoun City—J. Gregory, Northeast Oil Co. 1.

TISHOMINGO COUNTY
Rigs

Iuka—Unknown parties 1.

ALABAMA
MORGAN COUNTY
Wells Drilling

Albany—J. English, Albany-Decatur O. & G. Co. 1.

BALDWIN COUNTY
Wells Drilling

Bay Minnette—R. A. Evans, Stoll & Co. 1.

SUMPTER COUNTY
Wells Drilling

Cortopa—Sam W. Kendall 1.

HALE COUNTY
Wells Drilling

Greensburg, Hale Oil Co. 1.

SHELBY COUNTY
Wells Drilling

Chelsea—Scott, Cooksey Oil Co. 1.

WILCOX COUNTY
Wells Drilling

Selma—Blue Bell Oil Co. 1.

CLARKE COUNTY
Wells Drilling

Columbia—Hatchigbee Anticline, Inter-Coastal Oil Co. 1.
McCorquedale-Keoughan Oil Co. 1.
Rigs, 0; wells drilling, 2; total, 2.

MADISON COUNTY
Wells Drilling

Hawkensville—Florida-Georgia Cons. Co. 1.

LAWRENCE COUNTY
Rig

Moulton—Tulsa parties 1.

GEORGIA
PULASKI COUNTY
Rigs

Hawkensville—Florida-Georgia Cons. Co. 1.

JEFF DAVIS COUNTY
Wells Drilling

Hazelhurst—Mid-Georgia Oil & Gas Co. 1.

Oklahoma-Kansas and Eastern Pipe Line Report

OKLAHOMA-KANSAS
Pipe Line Statement for March

Runs

Company—	Month	Daily Avg.
*Prairie Pipe Line Co.	3,472,000	112,000
Gulf Pipe Line Co.	1,126,625	36,343
Texas Pipe Line Co.	358,281	11,557
Magnolia Pet. Co.	924,913	29,836
Empire Pipe Line Co.	1,086,125	35,036
Cosden Pipe Line Co.	961,066	31,002
*Sinclair Pipe Line Co.	1,224,500	39,500
*Other Lines	7,905,000	255,000
Total March	17,058,510	550,274
Total February	16,093,956	574,784
Total difference	964,554	24,510

Shipments

	Month	Daily Avg.
†Prairie Pipe Line Co.	4,923,929	158,836
Gulf Pipe Line Co.	1,109,603	35,794
Texas Pipe Line Co.	756,778	24,412
Magnolia Pet. Co.	1,339,832	43,220
Empire Pipe Line Co.	1,083,253	34,944
Cosden Pipe Line Co.	826 049	26,647
†Sinclair Pipe Line Co.	1,986,757	64,089
*Other lines	7,843,000	255,000
Total March	19,901,201	642,942
Total February	19,305,164	689,470
Total difference	596,037	36,532

Stocks

*Prairie Oil & Gas Co.	25,000,000
*Prairie Pipe Line Co.	2,000,000
Gulf P. L. and Gypsy Oil Co.	10,024,180
Texas Pipe Line and Texas Co.	4,347,513
Magnolia Petroleum Co.	8,332,371
Empire Pipe Line Co.	3,077,736
Cosden Pipe Line Co.	2,727,656
*Sinclair Crude Oil Purchasing Co.	27,400,000
Carter Oil Co.	16 872,339
*Other lines	10,000,000
Total March	109,781,795
Total February	110,538,471
Total difference	756,676

*Estimated. †Prairie shipments include also Texas crude oil and Sinclair shipments also include Wyoming and Texas crude oil.

Note.—Stocks do not include approximately 8,800,000 bbls. held in storage on private tank farms and leases.

Runs From Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for February and March:

	Feb., '25	Mar., '25
Nat. Transit	152,089.01	169,772.00
S. W. Pa. P. L.	75,044.66	82,742.71
Eureka P. L.	323,694.15	346,441.88
Buckeye P. L. (Macksburg)	257,192.02	285,108.00
Buckeye P. L. (Cleveland)	11,467.59	13,403.55
Buckeye P. L. (Lima, etc.)	121,210.85	132,914.79
Indiana P. L.	10,117.61	12,500.80
Cumberland P. L.	290,358.12	316,783.86
N. Y. Transit	18,156.30	20,196.49
Tidewater P. L.	123,151.77	142,538.93
Pure Oil	169,180.29	191,874.62
Emery P. L.	41,770.44	47,408.71
Indian Ref.	67,797.15	77,750.43
Paragon Dev.	29,522.74	17,370.31
Pittsburgh P. L.	7,359.37	8,470.60
Riggs Ref.	8,851.29	11,670.98
Total	1,696,963.36	1,877,817.76
Daily average	60,605.83	60,574.77

Note — Indian Refining Co. also reported other receipts of 307,798.21 bbls. Paragon Refining Co. had other receipts of 185,-369.51 bbls. Paragon Development Co. had other receipts of 3,315.86 bbls. Pittsburgh Pipe Line had other receipts of 2,739.07 bbls.

Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for February and March:

	Feb., '25	Mar., '25
Nat. Transit	426,389.57	630,179.68
S. W. Pa. P. L.	333,592.35	372,161.19
Eureka P. L.	120,288.49	140,554.54
Buckeye P. L. (Macksburg)	95,657.49	94,087.14
Buckeye P. L. (Cleveland)	1,212.97	1,406.54
Buckeye P. L. (Lima, etc.)	754,303.48	791,406.18
Indiana P. L.	1,068,926.14	1,005,156.39
Cumberland P. L.	142,109.90	192,372.05
Crescent P. L.		8,357.38
N. Y. Transit	700,076.33	551,009.09
Northern P. L.	118,854.01	136,435.26
Tidewater P. L.	99,606.73	161,370.53
Pure Oil	124,856.42	196,445.91
Emery P. L.	38,829.91	44,477.57
Paragon Ref.	99,542.91	68,165.00
Indian Ref.	334,417.14	366,073.96
Paragon Dev.	37,650.36	20,019.17
Pittsburgh P. L.	7,261.61	12,151.49
Total	4,504,173.81	4,792,329.06
Daily average	160,863.35	154,591.26

Gross Stocks

The gross stocks held by various pipe lines in the oil producing section of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky at the close of February and March were as follows:

	Feb., '25	Mar., '25
Nat. Transit	1,035,423.87	1,068,609.40
S. W. Pa. P. L.	686,629.94	746,167.41
Eureka P. L.	1,640,003.77	1,479,626.62
Buckeye P. L. (Macksburg)	269,748.41	243,240.44
Buckeye P. L. (Cleveland)	43,206.35	30,203.54
Buckeye P. L. (Lima, etc.)	3,491,690.20	3,358,207.59
Indiana P. L.	627,221.38	618,007.02
Cumberland P. L.	607,314.58	571,809.44
Southern P. L.	431,908.22	432,379.30
Crescent P. L.	58,244.28	49,923.81
N. Y. Transit	684,490.18	808,123.81
Northern P. L.	1,022,829.08	1,021,796.61
Pure Oil	454,163.71	446,021.83
Emery P. L.	11,400.75	14,313.36
Paragon Ref.	34,625.73	151,287.77
Indian Ref.	76,538.11	97,438.34
Paragon Dev.	8,591.88	9,158.55
Pittsburgh P. L.	5,210.04	4,602.85
Riggs Ref.	3,683.39	7,378.90
Total	11,192,923.90	11,158,296.59
Decrease	160,351.76	34,627.31

Grades of Oil

The following table shows the amount of the different grades of oil held by the eastern pipe lines at the close of February and March showing the gross stocks of the above fields:

	Feb., '25	Mar., '25
Pennsylvania	3,888,938.59	3,789,999.21
Lima	1,268,514.45	1,307,447.59
Kentucky	1,442,094.26	1,387,170.92
Mid-Continent	4,563,791.61	4,621,707.74
Illinois	29,595.89	51,971.13
Total	11,192,923.90	11,158,296.59

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1922	1923	1924	1925
January	67,702	75,790	62,638	56,831
February	75,096	71,092	68,023	60,606
March	78,531	76,592	68,721	60,575
April	75,462	75,614	71,058	.....
May	77,592	77,365	63,942	.....
June	76,192	77,593	63,230	.....
July	76,435	71,879	64,208	.....
August	79,387	76,910	59,942	.....
September	78,512	72,358	62,930	.....
October	77,209	76,256	64,976	.....
November	75,313	70,762	56,282	.....
December	73,351	69,271	55,814	.....

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1922	1923	1924	1925
January	119,792	171,067	146,518	157,889
February	111,362	164,219	148,732	160,868
March	127,753	185,487	147,098	154,591
April	127,068	170,761	147,611	.....
May	127,840	177,102	134,997	.....
June	137,638	173,598	143,010	.....
July	137,872	168,330	124,187	.....
August	153,275	142,766	123,120	.....
September	158,761	137,266	127,325	.....
October	165,345	134,597	123,170	.....
November	165,677	131,426	124,400	.....
December	172,861	139,909	151,392	.....

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines, at the close of each month for the past three years:

	1923	1924	1925
January	14,040,567	12,307,202	11,352,774
February	14,028,437	11,844,068	11,192,924
March	13,873,146	10,906,752	11,158,297
April	13,737,575	10,922,742	.....
May	13,815,622	11,335,308	.....
June	14,541,253	11,644,264	.....
July	14,645,584	12,062,361	.....
August	14,770,539	12,221,676	.....
September	14,803,444	12,206,536	.....
October	14,504,111	12,664,061	.....
November	14,167,726	12,268,530	.....
December	13,444,361	11,583,680	.....

Franklin Pipe Line Co.

The following table exhibits the condition of the Franklin Pipe Line at the close of business for the months named and not counted in the stocks and averages reported above:

1924—	Receipts	Shipm'ts	Stocks
March	3,398.74	1,716.26	11,764.43
April	3,311.84	2,066.78	13,009.54
May	3,036.50	5,038.21	10,998.29
June	3,188.31	407.01	13,779.59
July	3,067.74	3,334.29	13,512.04
August	901.36	6.21	16,109.19
September	2,794.68	5,775.89	13,128.42
October	3,342.40	1,880.69	14,590.33
November	2,700.13	482.89	12,427.56
December	2,120.34	2,659.13	12,888.77
1925—			
January	1,730.86	1,681.15	12,938.48
February	2,702.05	4,564.70	11,075.83
March	3,177.21	2,364.30	11,888.74

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks, April 1	2,038,236.72
Runs from wells	726,699.73
Other receipts	323,501.43
Regular deliveries	532,990.76
Other deliveries	753,322.19

The amount of Illinois oil run by the Tidewater Pipe Line Co. in March was 21,-635.95 bbls. and deliveries were 77,267.71. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries from the Illinois Field as follows:

1924—	Runs	Deliveries
March	611,289.26	369,643.81
April	514,356.43	339,546.19
May	751,080.44	510,414.43
June	725,060.37	525,493.30
July	759,646.84	552,386.56
August	720,457.72	519,335.79
September	714,875.36	535,762.30
October	741,767.42	543,863.77
November	650,147.63	521,465.31
December	640,919.28	592,943.30
1925—		
January	695,513.42	572,304.77
February	636,635.20	514,661.53
March	754,335.63	611,343.43

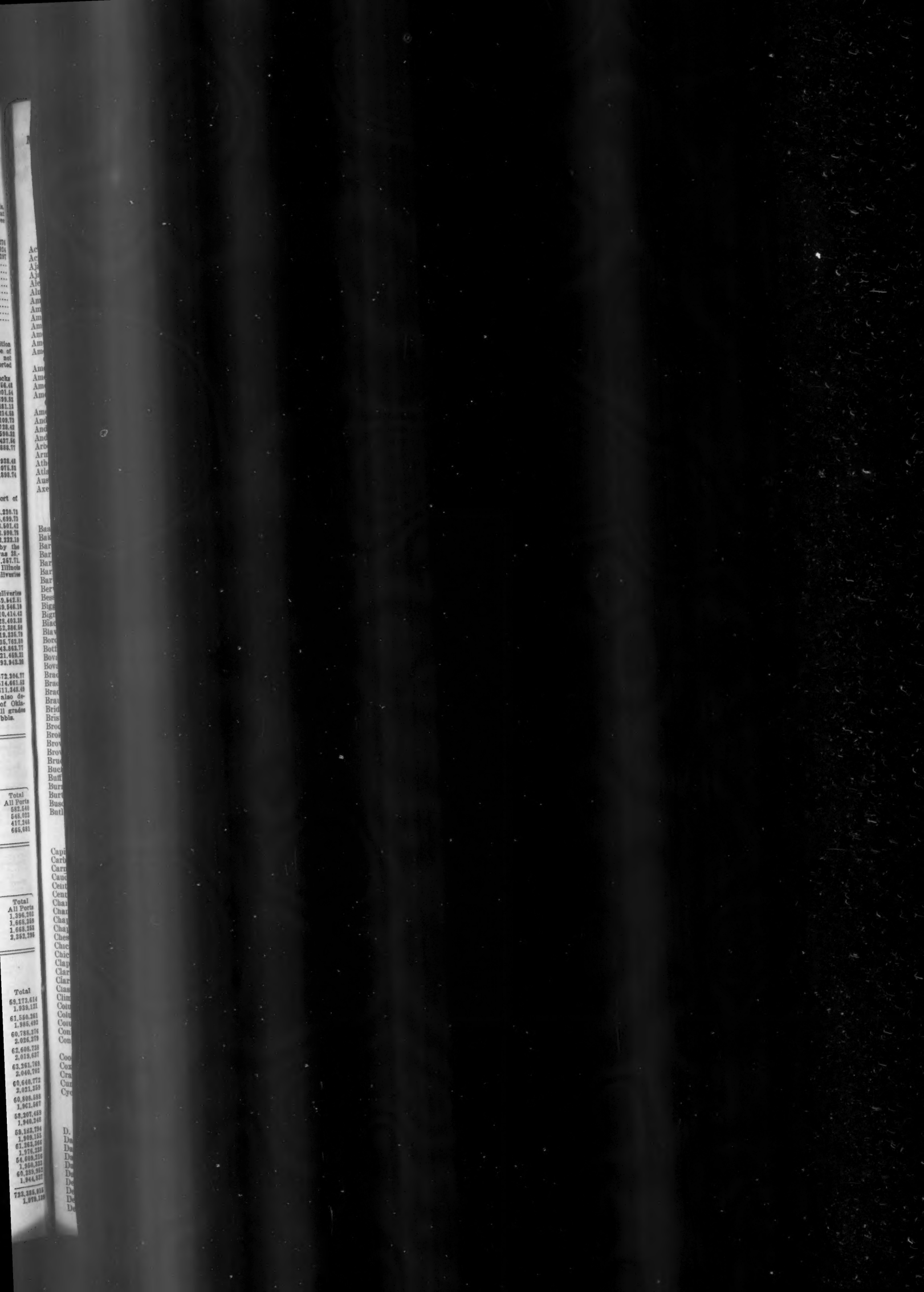
The Tidewater Pipe Co., Ltd., also delivered in March 289,226.38 bbls. of Oklahoma oil. The total deliveries of all grades by the Tidewater were 527,954.62 bbls.

AVERAGE WEEKLY RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF PORTS

Average bbls. per week—	ATLANTIC PORTS						GULF COAST PORTS						Total All Ports
	Baltimore	Boston	New York	Philadelphia	Others	Total	Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	
December	57,127	16,709	386,806	81,067	18,291	561,540	.....	21,000	.....	.....	21,000		582,540
January	86,933	16,030	310,933	75,418	58,709	548,023	.....	.....	.....	.....	.....		548,023
February	45,248	18,746	247,751	43,750	20,250	375,745	.....	41,503	.....	.....	41,503		417,248
March	24,826	32,418	297,388	111,885	146,552	613,069	.....	52,612	.....	.....	52,612		665,681

AVERAGE WEEKLY IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

Average bbls. per week—	ATLANTIC PORTS						GULF COAST PORTS					Total All Ports
	Baltimore	Boston	New York	Philadelphia	Others	Total	Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	
December	165,515	25,515	269,164	82,418	246,582	689,194	220,388	358,806	76,321	51,499	707,014	1,396,208
January	129,843	113,582	440,776	60,739	191,709	936,649	205,051	398,997	100,331	28,231	731,710	1,668,359
February	110,250	118,748	440,751	45,003	234,752	949,504	243,496	318,250	112,000	45,003	718,749	1,668,253
March	109,639	112,224	523,806	64,358	215,649	1,604,676	174,776	390,418	27,776	54,649	647,619	2,252,295

GROSS PRODUCTION IN THE UNITED STATES FOR 12 MONTHS

		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mountain	Eastern Fields	Total
April:	Month	19,299,849	13,452,240*	11,577,246	2,268,540	4,068,225	1,495,582	3,738,332	3,273,600	59,173,614
	Daily average	643,328	448,408	385,908	75,618	135,608	49,853	124,611	109,120	1,972,131
May:	Month	19,833,576	14,247,697	11,623,395	2,459,765	4,659,117	1,596,701	3,866,010	3,264,000	61,550,261
	Daily average	639,793	459,603	374,948	79,347	150,288	51,507	124,710	105,042	1,985,492
June:	Month	18,807,999	14,447,390	11,602,350	2,469,380	4,756,443	1,812,580	3,635,634	3,253,600	60,788,376
	Daily average	626,933	481,580	386,745	82,313	158,548	60,429	121,288	108,453	2,026,279
July:	Month	19,274,755	15,191,860	11,917,137	2,671,053	4,597,969	1,815,966	3,768,398	3,371,600	62,608,738
	Daily average	621,766	490,060	384,424	86,195	148,322	58,580	121,561	108,761	2,019,637
August:	Month	19,112,998	16,525,356	11,808,876	2,717,398	4,359,241	1,702,525	3,749,376	3,386,000	63,361,769
	Daily average	616,548	533,076	380,931	87,658	140,621	54,920	120,948	106,000	2,040,702
September:	Month	18,308,233	16,299,030	11,089,492	2,638,900	4,029,535	1,795,575	3,330,007	3,150,000	60,640,772
	Daily average	610,274	543,301	369,650	87,963	134,318	59,853	111,000	101,926	2,021,359
October:	Month	18,696,559	16,189,898	10,942,005	2,768,455	3,983,696	1,774,707	3,395,000	3,395,000	60,890,583
	Daily average	603,115	522,255	353,000	89,305	128,506	57,249	98,654	109,516	1,961,567
November:	Month	17,767,034	15,955,620	10,731,264	2,597,460	3,461,050	1,965,921	2,788,110	2,941,000	58,207,459
	Daily average	592,234	531,854	357,709	86,582	115,035	65,531	92,937	98,023	1,940,249
December:	Month	18,795,126	16,031,185	11,264,915	2,537,443	3,380,511	1,870,876	2,302,888	3,000,850	59,183,794
	Daily average	606,294	517,135	363,384	81,853	109,049	60,351	74,287	96,402	1,909,155
January:	Month	18,743,288	15,462,800	13,790,195	2,520,858	3,278,484	1,774,072	2,627,676	3,065,998	61,263,304
	Daily average	604,622	498,800	444,845	81,318	105,758	57,228	84,760	98,903	1,976,235
February:	Month	16,869,832	13,905,780	11,361,896	2,466,660	2,886,296	1,547,416	2,666,356	2,905,000	54,609,236
	Daily average	602,494	496,635	405,782	88,095	103,082	55,265	95,226	103,750	1,950,333
March:	Month	18,626,009	14,403,716	13,047,668	2,824,534	3,564,472	1,807,517	2,734,235	3,282,000	60,295,562
	Daily average	600,839	464,636	420,886	91,114	114,982	58,307	88,201	105,871	1,944,857
Total 12 months		224,135,259	182,112,572	140,756,239	30,940,446	47,025,040	20,959,448	38,268,265	38,188,643	732,385,911
Daily average 12 months		614,069	498,939	385,634	84,767	128,836	57,423	104,845	104,626	1,970,180